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ABSTRACT

This resource guide, second in a series of three volumes, is a compilation of assessment instruments, tools, or checklists. These instruments were submitted by active professionals in the field of assistive technology and demonstrate the range of instrumentation in use today. Each item submitted is reviewed according to a standard format that includes format of instrument, domains, purpose, population, setting of administration, materials and tools required, method, types of data, cost, sample questions, accommodations, interpretation of data, reported reliability and validity, advantages, disadvantages, special accommodations, recommendations for future use, and contact information. Following the review, selected pages from the actual instrument or the instrument in its entirety is provided. Instruments are divided into the following areas: (1) general clinical (pre, post assessment and information gathering); (2) clinical for augmentative and alternative communication; (3) clinical for wheeled seating and mobility; (4) special education, including Assessment for Assistive Technology System Selection Guide, Assistive Technology Evaluation Questionnaires, and the Assistive Technology Screener; (5) computer access; (6) cognitive functioning; and (7) consumer satisfaction. (CR)

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VOLUME II:
RESNA RESOURCE GUIDE FOR ASSISTIVE TECHNOLOGY OUTCOMES: ASSESSMENT INSTRUMENTS, TOOLS, & CHECKLISTS FROM THE FIELD

RESNA
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--- Lucy U. Vitaliti, Ph.D.
Project Director

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Preface

This document is the second in the three volume set of the *RESNA Guide for Assistive Technology Outcomes*. The volumes are as follows:

VOLUME I:	RESNA RESOURCE GUIDE FOR ASSISTIVE TECHNOLOGY OUTCOMES: MEASUREMENT TOOLS
VOLUME II:	RESNA RESOURCE GUIDE FOR ASSISTIVE TECHNOLOGY OUTCOMES: ASSESSMENT INSTRUMENTS, TOOLS, & CHECKLISTS FROM THE FIELD
VOLUME III:	RESNA RESOURCE GUIDE FOR ASSISTIVE TECHNOLOGY OUTCOMES: DEVELOPING DOMAINS OF NEED AND CRITERIA OF SERVICES

While assistive technology devices show a clear and demonstrable impact on the lives of the individuals who use them, quantifying this effect can seem daunting. For this reason, we have assembled some examples of measures to help you as you begin the process of selecting the measure(s) most appropriate for your purpose.

The instruments in this volume were collected from various professions, fields of practice, and academic disciplines related to the provision of assistive technology devices and services. A quick glance at the Table of Contents reveals that these instruments tend to be very focused in a given practice area of assistive technology or are limited to a particular functional domain. The examples included here (be they tools, checklists, guidelines, or clinical assessments) are meant to illustrate only some of the measures being used, or presently undergoing development/refinement, by persons working in the field of assistive technology today. While we have endeavored to provide representative examples, we certainly have not covered all available measures or even categories of measurement. The inclusion of a measure in this volume cannot be interpreted as RESNA's endorsement of the instrument, author, or originating institution; nor does the lack of inclusion mean that RESNA does not recommend a particular measure.

Each instrument included in this volume was reviewed from one of two perspectives: One, a comprehensive academic perspective or two, a clinical, applications approach. The reader must keep in mind the context in which the review is provided. In all cases, authors or submitters were invited to respond to the review, but a response was not required. Each review is presented in a similar format (see "Format of Review" on the next page). However, every item in the format may not be addressed in each review as information may not have been provided or is not applicable for that instrument.

Following the review and response, the reader will find selected pages from the actual instrument or the instrument in its entirety depending upon the length and type of reprint permission obtained from the authors.

FORMAT of REVIEW

Name of Instrument:
Author(s):
Reviewer:
Format of instrument: e.g., paper, pencil, checklist, computerized entry, open ended questions, diagrams, pictures for measurement.
Domain(s):
Purpose:
Population:
Setting of Administration: e.g., Homebound, Center based, inpatient, outpatient, home, separate room
Materials and Tools Required:
Method: A summary of administration, methods to collect information using instrument, how used, how standardized, e.g., in practice over the years, etc.)
Types of Data: (objective or subjective for each below)
a. Reporting (Self reported, reported by others)
b. Performance data of device (engineering
c. User performance- Function (W.H.O. disability categories) e.g., 1) Impairment (organ level) 2) Disability (person function) 3) Social Participation and ADL in community environment)
d. Environmental Resources
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Interpretation of Data (process):
Reported Reliability and Validity:
Cost:
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Disadvantages or Limitations
Special Accommodations:
Recommendations for Future Use:
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Section A

General Clinical (Pre, Post Assessment & Information Gathering)

Section A: **General Clinical (Pre, Post Assessment and Information Gathering Assessments, Instruments, Checklists, or Tools**

****

Instrument: **MPT - Matching Person and Technology Process**

Author(s): Marcia J. Scherer, Ph.D.

Reviewer: Joy Hammel

Matching Person and Technology Assessments:
- Survey of Technology Use (SOTU)
- Assistive Technology Device Predisposition Assessment (ATD PA)
- Educational Technology Predisposition Assessment (ET PA)
- Workplace Technology Predisposition Assessment (WT PA)
- Health Care Technologies Predisposition Assessment (HCT PA)

Accompanying Materials:
- PEER MENTORS WORKBOOK developed by the Rochester Center for Independent Living, -
- Audiotape, *Through the Eyes of the Consumer (Assistive Technology Version)*,
- Microsoft Excel scoring spreadsheet for the consumer version of the *Assistive Technology Device Predisposition Assessment* (IBM disk).

Format of Instrument

Paper-and-pencil checklists with limited open-ended questions. Can be used as interview guide.

Domain(s)

For the ATD PA:
- Consumer ratings of capabilities and satisfaction with functional performance (quality of life).
- Consumer perspectives of assistive technology device
- Consumer and provider forms enable perspectives to be matched

Purpose

This set of evaluations and accompanying educational materials is based on the Matching Person and Technology model which takes a personal, collaborative (user and provider) approach to assessing the potential technology need; choosing the most appropriate technology given the user's needs and goals, the technology features, and environmental support; and identifying optimal technology training strategies. The set can be used both as planning/evaluation tools and as person-centered outcomes measurements of the technology match before, during and after the technology-related intervention.

Population

Applies to people with disabilities across various technologies and environments. Specific research has been conducted with groups of individuals with physical (spinal cord injury, amputation, post-stroke), sensory (e.g., hard of hearing or deafness) and learning disabilities. Current/future studies involve the development of a version for children in age groups of 0-2, 3-5 & 6-11, and the adaptation of the ATD PA by a researcher in Texas for evaluating match of persons and service dogs.

Setting of Administration

Applicable for administration across settings from hospital to rehabilitation to home to community (e.g., school, work, public). Need a place to interview and/or complete evaluations. Need an accessible computer with Excel spreadsheet software if using computerized consumer version of ATD PA.

Materials and Tools Required

Set of MPT instruments, MPT Test Manual with scoring directions. Optional: computerized consumer version of ATD PA.

Method

Administration methods are described in detail in MPT test manual. General steps include:

- In collaboration with user, complete MPT Worksheet to obtain a general picture of potential technology usefulness, user/provider goals, and intervention strategies.

- Use the Technology Utilization Worksheet to further explore technology currently using, previously used, and needed now within keys areas of functional performance.

- If technology is considered useful, complete the Survey of Technology Use (SOTU) to further define needs.

- Determine which specific instrument(s) to administer:
  - -ATD PA: Assistive Technology
  - -ET PA: Educational Technology
  - -WT PA: Worksite Technology
  - -HCT PA: Health Care Technology

Administer specific instruments either as a general interview or as a formal, scored evaluation.

- complete user version: user does by self, via an interview with provider, or via assistance from a peer mentor.
- complete provider version.
- compare the two to determine discrepancies.
- collaboratively discuss overall findings and identify potential problem with technology match.
- collaborative identify intervention strategies and action plan for technology training and use.
- form written version of plan (similar to contract).
- do follow-up evaluations as needed (before & after intervention, regular follow-up periods thereafter) to track outcomes of match over time.

Types of Data

a. Reporting by two versions: user and provider. Self report by user. Other reports considered (e.g., other professionals, caregivers, family) but focus is on person-centered evaluation.

b. Performance data of device (engineering): Only as related to key technology features to determine match to user's needs and goals. Not a technical specifications or engineering data collection tool.

c. User performance – According to the W.H.O. disability categories of

1) Impairment (organ level):psychosocial, sensory (visual, hearing, sensation), motor, communication and cognitive ability/impairment items.
2) Disability (person function): matches consumer abilities and needs to general ADL and IADL activity (e.g., reading/writing, household, self-care, recreation, employment, learning) items; however, rates technology match to task and not specific levels of functional independence.
3) Social Participation and ADL in community environment: Items related to match of environment to potential technology use by person in several are as (general AT use: ATD PA; educational context: ET PA; worksite context: WT PA; health care/medical technology context: HCT PA). Sample items include: cost of technology/funding mechanisms, support services/training, service delivery systems, AT characteristics, general quality of life rating, reactions of others toward technology use, etc.

Data on Cost: As a general match to user's needs and goals, does not track actual costs of technology and services to deliver.

Sample Questions:
Assistive Technology Device Predisposition Assessment - Professional Form (Side Two)

Consider each of the following pairs of device and user descriptions. Mark each box as follows:
5 = a good match exists between the device and person
4 = the match is close, but not perfect
3 = item does not apply in this case or has not been assessed
2 = the person will have difficulty with this AT characteristic
1 = a clear and obvious mismatch exists

Requirements of the Assistive Device		Resources of the User
	Weight and Size	
Is the device useable with little or no discomfort, stress and fatigue?	_____	Does the user have the physical capabilities and stamina to appropriately use the AT?
	Expense	
Is the cost of the device within reason for the expected increased functioning?	_____	Does the user have the resources and/or support to obtain the AT?
	Service Delivery	
Can it be delivered in a timely fashion?	_____	Will the user no longer require the AT before or soon after delivery?

	Cognitive Demands	
Does the device require special training, skills, or aptitudes? Can it be adapted to accommodate changing user capabilities?	_____	Does the user have the capabilities for rewarding use or can the user be trained to have them?
	Physical/Sensory Requirements	
Are there physical requirements for use (e.g. finger dexterity, hearing, sight) that need adaptation?	_____	Does the user possess or can be trained for the necessary physical/ sensory demands?
	Support Services/Training	
Is training/support and upgrading available for the device? Can the user try it out, etc. to make sure a good match exists?	_____	Does the person have the resources and capabilities to benefit from training and/or support?
	Maintenance and Care	
Is the AT easy to maintain and repair?	_____	Is the person able/willing to do routine maintenance and care?
	Performance	
Does the device perform better than what is currently used and better than other alternatives?	_____	Will user goals be better or more easily achieved using the device rather than alternatives?

Accommodations: Computerized user version with scoring.

Interpretation of Data

The MPT Test Manual provides details for manual scoring and general interpretation of results. Computerized scoring now available for user version of ATD PA.

Reported Reliability and Validity

The MPT test manual contains detailed listings of instrument testing, application, and specific reliability and validity studies. The MPT and ATD PA were developed based on participatory action research studies with people using assistive technology over time, thus contributing to content validity. Reliability was tested with groups of psychology students and rehabilitation professionals rating videotaped AT evaluations and yielded acceptable inter-rater reliability ratings. Criterion validity was tested with 2 groups of hearing impaired older adults showing the ATD PA as more sensitive than the CPHI (Communication Profile for The Hearing Impaired) in differentiating AT use versus non-users. The instruments continue to be utilized and further tested in multiple on-going follow-up studies involving general assistive technology, educational and work applications, and different user population and age cohort applications.

Cost: $29.95 for the manual and instrument set. $9.95 for the computerized diskette version.

Advantages

- Provides a general technology screening and evaluation as well as specific technology matching.

- Instruments applicable across individuals, types of technology, and environments of use.
- Explores match of persons and their needs and goals to potential technology
- Based on collaborative user/provider model and provides two evaluation versions to compare perspectives, including an accessible, computerized user scoring version
- Based on underlying MPT model with multiple research studies to test model with different populations and technology use situations
- Specific instruments can be completed in approx. 15 minutes; a more comprehensive battery in approximately 30 minutes.
- Select items on the ATD PA Consumer Form are being studied as indicators of quality of life. (Side One of Form, Sections A-D).
- The audiotape exercise (for assistive technology) and the RCIL workbook (developed by the Rochester Center for Independent Living) offer an excellent set of supplementary educational activities and resources relevant to both users and providers when planning and implementing technology-related interventions.

Disadvantages or Limitations

- Limited item testing, especially with predictive validity or hierarchy of difficulty of items; however, studies to contribute to this instrument information are on-going or planned for future.
- Can be used to track technology match outcomes over time; however, not intended to track relationship to specific functional independence rating (disability level), or handicap level (e.g., cost-benefit/effectiveness) outcomes.
- Evaluators should have experience with or access to assistance with rating psychological and psychosocial status.

Special Accommodations

- Computerized version available

Recommendations for Future Use

The MPT portfolio offers a range of technology assessment tools from a quick screen to a more detailed general AT evaluation to several more specialized evaluations in the areas of education, work and health care. They are applicable across a variety of AT users and settings. Assessments can be completed and scored quickly. This reviewer has incorporated MPT results into AT justification reports, program evaluations and research studies. User and professional versions offer ways to compare perspectives on the match between the technology, the person and the environment, as well as to track outcomes and user satisfaction with the match over time. Although not designed to track functional or handicap level outcomes, the set can be used in combination with other existing instruments, such as the FIM, OT FACT, QUEST and others.

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RESPONSE TO REVIEW

The ATD PA was developed from test and interview data with known users and non-users of assistive technologies. The research was deliberately designed to probe persons for the psychological and psychosocial influences on their technology use (in addition to influences from the environments of use and characteristics of the technologies themselves). Because my background is counseling and psychology, I am accustomed to addressing sensitive and personal areas of people's lives. Professionals in other disciplines may not be as comfortable with such discussions and they may feel uncertain about how they would handle particular responses. When using the MPT assessments in a one-on-one interview, it frequently occurs that the items open up a dialogue around sensitive areas of dealing with a new disability. In these cases, here are a few suggestions for ways to handle this situation:

1. Listen and acknowledge that you heard what the person was saying. You may repeat what was said or summarize it. You do not have to say anything beyond this. In fact, that is a preferable course of action than to risk saying something beyond your comfort (and skill) level.

Besides, being listened to is often what consumers most want; when it happens the consumer feels validated as a person.

2. If you believe the consumer might benefit from discussing a topic further with another professional (such as a counselor), you could say to the consumer something like, "You've said how depressed you feel. Perhaps talking with someone who helps people deal with that might be helpful to you. What do you think?" If the person agrees, then say you will look into ways to arrange that. Then do it.

3. If a topic or feelings arise that you do not wish to handle, you need only say to the consumer: "I'm sorry, but this is not my area of expertise. If it's okay with you, I'll mention this to ____________ so they can talk with you about this further and finish this form with you. Thank you for agreeing to talk with me and being so candid. Your honesty is very important."

When it comes time to organize, make sense of, and interpret the information you have obtained, it is crucial to think beyond actual AT use to implications for the person's general quality of life. For this, a recommended course of action is to have a "comprehensive team review" of the information. While this is not always easy to arrange, it will prove to be very cost- and time-efficient in the long run.

--- Marcia J. Scherer

Matching Person & Technology

A Series of Assessments for Evaluating
Predispositions to and Outcomes of
Technology Use in Rehabilitation,
Education, the Workplace &
Other Settings

by
Marcia J. Scherer

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Revised 1994, 1998

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Marcia J. Scherer, Ph.D.

Copies of the **Matching Person & Technology (MPT) Model** Manual and accompanying assessment instruments may be ordered from:

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The Institute for Matching Person & Technology, Inc.
486 Lake Rd.
Webster, NY 14580

716/671-3461 (phone/fax)
Homepage: http://members.aol.com/JSchererer/MPT.html

Quantity discounts are available upon written request.

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According to one rehabilitation engineer [who has a disability].

> *The crucial step is to have the individual try it, to go through the routine of actually using the equipment or mimicking the use of that equipment. Usually with a device comes a need for extra room. If the individual is not able to use it, you can look for other alternatives, see if there's need for further modification, etc. Sometimes you may have to start all over again. It's a man-machine interface where you're trying to get that individual with that particular disability able to operate a device in one or more environments... You become an investigator, a detective. You find out what the different alternatives are within the constraints.*

From **Living in the State of Stuck: How Technology Impacts the Lives of People with Disabilities**, pp. 128-129

Matching Person and Technology (MPT) Model/Process

Recent advances in technologies for persons with disabilities, students and workers have created a wide range of options in technology functions and features. As a result, consumers and providers often report feeling overwhelmed and confused when faced with decisions regarding device selection and use. In response to this, and in hopes of providing a more personal approach to matching individuals with the most appropriate technologies for their use, the **Matching Person and Technology (MPT)** assessment portfolio has been developed.

The **MPT Model/Process** contains a series of instruments designed for those who are concerned with the most appropriate match of person and technology. Each of the instruments is quick, easy and self-explanatory. Presently, master copies of the following instruments are included for you to photocopy and use at your site:

- The **Survey of Technology Use (SOTU)** for identifying technologies an individual feels comfortable or successful in using so that a new technology is planned around existing comfort or success.
- The **Assistive Technology Device Predisposition Assessment (ATD PA)** for people selecting assistive technologies.
- The **Educational Technology Predisposition Assessment (ET PA)** for helping students use technology to reach certain educational goals.
- The **Workplace Technology Predisposition Assessment (WT PA)** for trainers and others who introduce technologies into work settings.
- The **Health Care Technology Predisposition Assessment (HCT PA)** for health care professionals who are helping individuals to adopt and to adjust to medical devices.

With the exception of the current version of **HCT PA**, each instrument is actually a **pair** of instruments -- one designed for the provider of technologies (counselor, therapist, teacher, trainer) and the other designed for the technology user (client, student, employee). Depending on the situation, these instruments help the provider and the user to **work together** to accomplish the following:

- choose the most appropriate technology when there is a choice of several;
- decide whether a particular technology is the most appropriate choice given the characteristics of the person, technology and environment;
- decide on the most appropriate training strategies for an individual's optimal use of a technology.

There are scoring procedures included in this manual for several of the instruments. However, **no specific scoring system need be used for many practical applications**. It is believed that careful completion of each instrument item and observation of the balance of positive to negative responses will often give the provider sufficient insight to determine the quality of the match of a person and a technology.

The *MPT* Model/Process is user-driven and person-centered. To gain the most benefit from the instruments in the **MPT** portfolio, the procedures listed below should be followed:

1. Ask the user (client, student or employee) to complete his or her version of the appropriate form *focusing on current feelings and attitudes*. [Instead, the user form may serve as a guide for an oral interview, if that seems more appropriate for the situation.] You may find it necessary to modify the actual wording on the user form in order to obtain the most helpful responses from the user, for it is the *meaning* of the items and not the specific wording that is important. In fact, the actual wording on the master forms may be changed to specify particular technologies, conditions, etc. For children, or those unable to respond themselves, you may ask a parent or guardian to provide the information. But be aware that, in these circumstances, the parent's or guardian's views will be reflected in the results, and these views may or may not parallel those of the potential user.

2. Complete the provider version of the instrument and identify any discrepancies between your version and the user version. Also identify factors that may hinder the user's acceptance or use of the technology. Questions requiring information that you do not currently have should be left blank with a notation to obtain that information later.

3. Discuss with the user those factors that may indicate problems with his or her acceptance or appropriate use of the technology.

4. After you have noted the problem areas, work with the user to identify specific intervention strategies and devise an action plan to address problems and to describe proposed interventions.

5. Finally, you should commit to writing the strategies and action plans, for experience has shown that plans that are merely verbalized are not implemented as frequently as written plans. Written plans also serve as documentation and can provide the justification for any subsequent actions such as requests for funding or release time for training, etc.

WORKSHEET FOR THE *MATCHING PERSON AND TECHNOLOGY (MPT)* MODEL

In which of the following areas does the individual seem to have a limitation (check all that apply)? For each limitation, indicate potentially desirable technologies and other interventions for this person.

Limitation	Desirable Interventions	Technology Examples
___ **Communication.** Write the specific limitation noted: ______________	______________	Manual communication board, electronic communication device
___ **Mobility.** Write the specific limitation noted: ______________	______________	Wheelchair (power or manual), walker, ramps, lifts on public buses, modified car/van, adapted driving devices
___ **Vision.** Write the specific limitation noted: ______________	______________	Magnification devices, reading machine, sonic guides
___ **Hearing.** Write the specific limitation noted: ______________	______________	Hearing aid, phone amplifier, personal FM system, TV decoder, telecommunications devices, signaling devices,
___ **Reading/writing.** Write the specific limitation noted: ______________	______________	Books on tape, computer with synthesized speech output
___ **Household activities.** Write the specific limitation noted: ______________	______________	Adapted household appliances, environmental control units
___ **Health maintenance.** Write the specific limitation noted: ______________	______________	Self-administered analgesics, self-monitoring devices, intrathecal devices

S A M P L E

TECHNOLOGY UTILIZATION WORKSHEET FOR THE MATCHING PERSON AND TECHNOLOGY (MPT) MODEL

In which of the following areas does the person (a) use, (b) have past use, and (c) need a technology? Check all that apply and record the information requested in each area

		TECHNOLOGY(IES) CURRENTLY USED			TECHNOLOGY(IES) USED IN THE PAST				TECHNOLOGY(IES) NEEDED		
Limitations	Name of Technology	Months Used	Percent of Day Used	Satisfaction with technology (1=very dis-satisfied, 3=neutral, 5=very satisfied)	Months Used	Percent of Day Used	Satisfaction with technology (1=very dis-satisfied, 3=neutral, 5=very satisfied)	Reason for No Longer Using	Need and Want, but Do Not Have	Need, but Do Not Want	Reason
___ Communication	1.										
	2.										
	3.										
___ Mobility	1.										
	2.										
	3.										
___ Vision	1.										
	2.										
	3.										
___ Hearing	1.										
	2.										
	3.										
___ Reading/Writing	1.										
	2.										
	3.										

SAMPLE

The Assistive Technology Device Predisposition Assessment - C

Name____ **Date of Birth**________________

Desired Outcome(s)________________________________ **Today's Date**________________

____

1. How are your current capabilities in the following areas? Circle the best response for each:

	Poor		Average		Good
a. Vision	1	2	3	4	5
c. Speech	1	2	3	4	5
d. Upper extremity control	1	2	3	4	5
f. Mobility	1	2	3	4	5
g. Dexterity	1	2	3	4	5
i. Physical strength/stamina	1	2	3	4	5

Put a [-] beside any of the above that you believe are or will be deteriorating over time.
Then put a [+] beside any you believe are or will be improving over time.

2. How satisfied are you with what you have achieved in the following areas? Circle the best response for each.

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	Not Satisfied		Satisfied		Very Satisfied
a. Independent living skills	1	2	3	4	5
c. Communication skills	1	2	3	4	5
d. Physical comfort & well-being	1	2	3	4	5
e. Overall health	1	2	3	4	5
g. Ability to go where desired	1	2	3	4	5
i. Emotional well-being	1	2	3	4	5

Put a [+] beside the one(s) you most want to see improve over time.

4. Please check all the statements below that describe you.

- ☐ need more privacy
- ☐ do what therapist(s) recommend
- ☐ satisfied with present situation
- ☐ want more independence
- ☐ have made friends with therapists
- ☐ discouraged
- ☐ prefer to be left alone
- ☐ receive emotional support from others
- ☐ receive physical support from others
- ☐ often angry
- ☐ often depressed

(Side Two Sample Questions: Completed for Each Device)

1. Can you use this device with little or no assistance from others?

1	2	3	4	5
Not at all		Half the time		All the time

3. How much do you beleve you will benefit from using this device?

1	2	3	4	5
Not at all		Some		A lot

5. How much will this device require changes in your accustomed routine?

1	2	3	4	5
A lot		Some		Not at all

SIDE ONE

PROFESSIONAL FORM

THE ASSISTIVE TECHNOLOGY DEVICE PREDISPOSITION ASSESSMENT (ATD PA)-P

Consumer ______________________________

Date ______________________________ Rater ______________________________

A. Individual and Psychosocial INCENTIVES AND DISINCENTIVES TO ATD USE

Read each of the items below and decide which may be incentives and disincentives/deterrents to the use of assistive technology by *this* person. Then put an "X" in the appropriate box. For those that are neutral, **do not** apply to or do not exist in this situation, put an "X" in the middle box.

- 0 +

	Major Disincentive	Moderate Disincentive	Minor Disincentive	Neutral/Does Not Apply	Minor Incentive	Moderate Incentive	Major Incentive
1. Expectations held by family							
2. Expectations held by friends							
3. Interest in new things							
4. Attitude/outlook on life							
6. Degree of social participation							
7. Desire for independence							
8. Desire to work / go to school							
9. View of opportunities							
10. Degree of self-discipline and patience							
12. Perceived control over quality of life							
13. Desire to use technology(ies)							
14. Mood and affect							
15. Expectations of self							
16. Self-concept							
18. View of limitations / barriers							
20. Coping skills							
21. Cooperation with therapist and rehabilitation plan							
22. Socialization							

SAMPLE

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PROFESSIONAL FORM

SIDE TWO

THE ASSISTIVE TECHNOLOGY DEVICE PREDISPOSITION ASSESSMENT (ATD PA)-P

Device or System ______________________ User ______________________

Date ______________________ Rater ______________________

Who wants the device for this person (person, family, therapist, employer)? ______________________

B. REQUIREMENTS OF THE ASSISTIVE DEVICE COMPARED TO THE RESOURCES OF THE PERSON

The following items are presented in pairs. The left column asks about the requirements of the device in six different areas; the right column asks about individual resources in each of the same six areas. For every paired item, write in the box the number that best indicates the degree to which the requirements of the device and the resources of the person match. For example, if the person is easily capable of dealing with the device's *physical demands*, or the *physical demands* of the device can easily be modified to accommodate the resources of the person, then a good match exists and the score would be 5 for that particular pair.

5	4	3	2	1
A good match exists of person and device.	The match is close, but not perfect.	Neutral or does not apply or has not been assessed.	The person will have difficulty.	A clear and obvious mismatch exists.

SAMPLE

REQUIREMENTS OF THE ASSISTIVE DEVICE		RESOURCES OF THE PERSON
23. Physical Demands .... Is the device usable with little or no discomfort, stress and fatigue and is it usable with little or no assistance from others?	☐	.... Does the person have the physical capabilities and stamina to appropriately use the device?
24. Physical/Sensory Requirements .... Are there physical requirements for use (e.g. finger dexterity, hearing, sight) that be adapted or modified?	☐	.... Does the person possess *or* can the person be trained for the necessary physical/sensory demands?
25. Expense .... Is the cost of the device within reason for the expected increased functioning?	☐	.... Does the person have the resources and/or support to purchase or rent the device?
26. Support Services/Training .... Is training/support and upgrading available for the device? Can the individual try it out, etc. to make sure a good match exists?	☐	.... Does the person have the resources and skills to benefit from training and/or support?
27. Service Delivery .... Can it be delivered in a timely fashion?	☐	.... Does the person possess the patience to wait for the device and will not outgrow it?
28. Cognitive Demands .... Does the device require special training/education that is available? Can the device be adapted to accommodate varying user skills/aptitudes?	☐	.... Does the person have the training and intellectual abilities needed or can s/he be trained to have them?

C. INDIVIDUAL AND PSYCHOSOCIAL CHARACTERISTICS AFFECTING USE OF THE ASSISTIVE DEVICE

	Yes		Possibly		No
29. Does the user have goals that he or she judges will be better or more easily achieved by using the device rather than alternatives to its use?	5	4	3	2	1
30. Will use of the device fit with the person's basic style of doing things?	5	4	3	2	1
31. Does the user have realistic expectations of the device?	5	4	3	2	1
32.	5	4	3	2	1
33. Does the user want this assistive device?	5	4	3	2	1
34.	5	4	3	2	1
35. Will the device give the person positive status in the eyes of peers?	5	4	3	2	1
36.	5	4	3	2	1
37.	5	4	3	2	1
38. Will use of the device be independent of cooperation/assistance from others who may feel inconvenienced by it?	5	4	3	2	1

Influences on Use of Assistive Technology

	Milieu	Personality	Technology
Use	Support from family, peers, or employer Realistic expectations of family or employer Setting/environment fully supports and rewards use Pressure for use from family, peers, or employer	Proud to use device Motivated Cooperative Optimistic Good coping skills Patient Self-disciplined Generally positive life experiences Has the skills to use the device Perceives discrepancy between desired and current situation Willing to challenge self	Goal achieved with little or no pain, fatigue, discomfort, or stress Compatible with, or enhances the use of other technologies Is safe, reliable, easy to use and maintain Has the desired transportability Best option currently available
Nonuse	Lack of support from family, peers, or employer Unrealistic expectations of others Setting/environment disallows, prevents, discourages, or makes use awkward Requires assistance that is not available Medical status inhibits or limits use of device	Fear of losing own abilities or becoming dependent Embarrassed to use device Depressed Unmotivated Uncooperative, resistant, hostile, or angry Intimidated by technology Overwhelmed by changes required with device use Does not have skills for use Training not available Poor socialization and coping skills	Perceived lack of goal achievement or too much strain or discomfort in use Requires a lot of setup Perceived or determined to be incompatible with the use of other technologies Too expensive Long delay for delivery Other options to device use are available Has been outgrown Is inefficient Repairs or service not timely or affordable

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Source: *Guidelines for the Use of Assistive Technology: Evaluation, Referral, Prescription* (American Medical Association, 1994)

SAMPLE QUESTIONS FROM THE PEER MENTORS' WORKBOOK, ROCHESTER CENTER FOR INDEPENDENT LIVING:

SELECTING ASSISTIVE TECHNOLOGY DEVICES:

(Questions to ask about ***product function and features***)

DEVICE/PLACE:______________________________

- ☐ [Many questions from the *Matching Person & Technology* process regarding the match of specific device characteristics with consumer needs/preferences]
- ☐ Are the knobs, switches, straps, etc. accessible and easy for me (or caregiver) to use?
- ☐ Are there extra features that make the product more versatile?
- ☐ Are there extra features that I'll never use?
- ☐ Are adaptations or additional parts necessary for this device?

(Questions to ask about ***purchasing and cost***)

- ☐ Is the same device I tried the one I am going to get?
- ☐ Is the product in stock, or if ordered, can I get it quickly?
- ☐ Are my needs going to change from the time I order the device to the time when I get it?
- ☐ Do I have funding for this assistive technology?
- ☐ Can I justify the funding of this device?
- ☐ Have I shopped around for the best device?
- ☐ Have I shopped around for the best price?
- ☐ Can I trade in the product or upgrade it at a later date?
- ☐ Does the vendor know the product well?
- ☐ Have I checked with the Fair Business Council about the reputation of the business?

S A M P L E

NOTES

Instrument: **OT FACT (acronym for Occupational Therapy Functional Assessment Compilation Tool)**

Author(s): Roger O. Smith, Ph.D., OTR, FAOTA

Reviewed by: Charlotte A. Bhasin, MOT, OTR/L,
The Cleveland Clinic Foundation, Cleveland, Ohio.

Format of instrument: Computer-based presentation of a sequence of highly descriptive statements concerning function, to which a rater responds by selecting a rating on screen.

Domain(s)

- Performance of life roles and daily tasks, resulting in Functional Profile.
- Quality of Life factors are inherent within instrument.
- Consumer Satisfaction with function, possible to rate with and without assistive technology.
- Taxonomy of Functional Performance

Purpose

OT FACT was created to standardize the collection and reporting of occupational therapy functional assessment data and outcomes. It consolidates evaluation information into simple summary reports. It can compare longitudinal re-evaluation information after an intervention has occurred. These reports highlight individuals' skills and deficits, resulting disabilities, and profiles of function in daily living, educational, vocational, and recreational activities.

Relevance to Assistive Technology:

OT FACT can be scored "pre-"(without) and "post-" (with) use of any assistive technology. It summarizes, numerically and graphically, the functional impact (that is, the outcome) resultant from the use of the assistive device. This can aid clinicians in making decisions about devices based on functional outcome. OT FACT's reports/graphs can become supporting documentation to third party payors when attempting to justify a device in terms of its impact on daily function.

Population

OT FACT is designed to compile functional information on all age groups and all ability/disability levels.

Setting of Administration

OT FACT can be completed in any setting, but a laptop or desktop computer must be available. If a client is to self-rate, appropriate computer access or physical/visual assistance must be available. Reports/results are available immediately on-screen and are saved to a client file; hard-copy reports require a printer.

Materials and Tools Required

- OT FACT software.
- Computer system (Macintosh and IBM versions available); desktop or laptop.
- Disk storage (hard drive or floppy) for client files.
- Printer for printout of summaries, reports, graphs.

Method/ Summary of Administration

OT FACT is a criterion-referenced instrument. Scorers use professional judgement to collect data using whatever methods are most appropriate for their setting and situation. (This may include ANY method: e.g., chart review, observations, professional judgement, interviews with client, interviews with others who know the client, the administration of specific standardized test instruments, etc.). OT FACT does not alter any clinician's evaluation procedures. It does not dictate HOW data is collected about a person's function--only that it is collected. The rater (a clinician, the client, or another individual involved with the client) reads each statement presented by OT FACT and enters a rating based upon their knowledge/clinical assessment of the client. The rating entered causes the software to branch to the next most appropriate level of description of function. This detail promotes high intra- and inter-rater reliability, as there is little room for subjective interpretation.

The rating scale of OT FACT has three choices regardless of the statement:
[2] NO DEFICIT
[1] PARTIAL DEFICIT
[0] TOTAL DEFICIT

A "No Deficit" rating causes the software to "skip over" that section of function and presumes "No Deficit" to mean 100% function in that area. For example: A client who is fully independent in "Nutrition Activities: Prepares, cleans-up, and eats as needed." would be rated "No Deficit." The software would move on to the next category. If the client were rated "Partial Deficit" in this category, the software would branch to a greater level of detail to define the specific deficit(s) within this area. If the client is rated "Total Deficit," full dependence is presumed or 0% independent function. IF THE RATER IS IN DOUBT, OT FACT scoring instructions specifically state that "Partial Deficit" be scored. This results in all the sub-statements being presented to further define the category. Should the rater find "No Deficit" in all of the sub-statements regarding that function, the computer scores the larger category as a whole "No Deficit." Respectively, scoring "Total Deficit" in all sub-categories results in a "Total Deficit" rating for the larger category. Any "Partial Deficit" areas serve to define the actual nature of the deficit within that category.

Development and Standardization of OT FACT

The project to develop OT FACT began with a grant to Roger Smith at the University of Wisconsin-Madison in 1985 "to develop a standardized assessment for the occupational therapy profession." The years 1985 to 1990 were spent surveying occupational therapists and compiling versions of a taxonomy of function that reflected national practice. Both a "paper/pencil" version and a computerized version were under development. In 1989 and 1990, the project shifted focus to fully computerizing the instrument. The "paper/pencil" version had become 100 pages long, with a thick instruction manual and an unwieldy three-page fold out scoring sheet. The paper-pencil version required the rater to do 80 calculations by hand for sub-totals and totals. All 900 statements of function had to be listed out (hence the length) whether a person had a deficit in those areas or not. In the computerized version, the statements "branch" to the next most relevant statement based on previous answers to statements of function. The computerized version was found to be significantly more efficient in rating and compiling *appropriate* data for a particular client (rather than ratings being made on many seemingly irrelevant categories). Computerization also allowed *instant* scoring, summary data and graphing of the data.

Types of Data:
a. Reporting

OT FACT can be rated by a clinician, or self-rated by the client, or rated by others involved with the client (e.g., a family member's perspective, a teacher's perspective). Comparisons can be made between raters.

There are ways within OT FACT OT change the scoring perspective. They are noted below:

Self-Satisfaction Scoring: Used when collecting the client's perceived value of performance. A client may need OT use a piece of equipment OT accomplish a task, but may not be "satisfied" with the need OT use equipment (e.g., personal goal may be not OT use equipment). Scoring from this perspective rates client's satisfaction with his/her performance, rather than the functional outcome.

Co-Variate Scoring: Used OT tease out the impact of specific contributing factors, e.g., safety, pain, cognitive deficit, quality of work. Rater describes the specific conditions in use for scoring at the outset of the scoring procedure.

b. Performance data of device (engineering)

OT FACT provides a profile of the USER'S function, rather than data on the performance of the assistive device itself. It does not compare engineering or design features between products.

c. User performance - Addresses the W.H.O. disability categories
1. Impairment and 2. Disability: The hierarchy of OT FACT's domains run parallel OT W.H.O. ICIDH domains. OT FACT, however, breaks "impairment" into two sets of descriptors: "Integrated Skills of Performance" and "Underlying Components of Function" (e.g., neuromuscular, sensory, cognitive, social, psychological). 3. Societal Participation and ADL in Community Environment: OT FACT does not specifically address details of societal performance i.e. WHO handicap. It does have sections related OT Role Participation in the community (e.g., citizen, consumer).

Environmental Resources

OT FACT can be scored from different perspectives regarding the Environmental Resources in use by the client:

Environment-Free Scoring: Used OT score a client's intrinsic performance. This is performance without accommodation.

Environment-Adjusted Scoring: Used OT score a client's performance with environmental changes (with physical or organizational accommodation.)

Environment-Assisted Scoring: Used OT score a client when personal assistance is supplementing intrinsic function, e.g., from attendant, or parent.

Sample Questions
The following is a written excerpt from computer screens of OT FACT. PLEASE NOTE: Only one statement would be on the computer screen at a time; a written presentation such as the example below is quite tedious and overwhelming. It is strongly recommended that

the computerized demo version be "experienced" if you are considering the use of this tool for outcomes measures. The written version does not do it justice and in fact, defeats the ease and efficiency of the actual instrument.

Once a rating is entered, only the next most appropriate statement would appear on the screen. "Mobility Activities" was chosen as a sample for this review due OT the reliance of many clients on assistive devices for mobility.

II. ACTIVITIES OF PERFORMANCE
A. PERSONAL CARE ACTIVITIES
5. Mobility Activities
Moves indoor, outdoor with private transportation, and outdoor with public transportation as needed.
RESPONSE: ___NO DEFICIT ___ PARTIAL DEFICIT ___TOTAL DEFICIT

If "Partial Deficit", computer screen branches OT next set of statements (represented below) OT further define the deficit:

5.a. Indoor: Moves around the inside of one's home; transfers in and out of furniture; maneuvers between rooms; manages doorways; and transports between building levels.
RESPONSE: ___NO DEFICIT ___ PARTIAL DEFICIT ___TOTAL DEFICIT

5.a.1. Bed Mobility: Moves in bed (rolls, scoots, bridges); comes OT sitting position in bed.
RESPONSE: ___NO DEFICIT ___ PARTIAL DEFICIT ___TOTAL DEFICIT

5.a.2. Transferring: Transfers from one piece of furniture OT another.
RESPONSE: ___NO DEFICIT ___ PARTIAL DEFICIT ___TOTAL DEFICIT

5.a.3. Get up from floor: Gets up from floor.
RESPONSE: ___NO DEFICIT ___ PARTIAL DEFICIT ___TOTAL DEFICIT

5.a.4. Stands, sits & shifts: Moves from sitting OT standing and reverse OT perform functional activity; shifts weight as needed when in sitting position.
RESPONSE: ___NO DEFICIT ___ PARTIAL DEFICIT ___TOTAL DEFICIT

5.a.5. Between/within rooms: Maneuvers self between and within all rooms requiring access (moves through doorways, around furniture and corners for all rooms across settings).
RESPONSE: ___NO DEFICIT ___ PARTIAL DEFICIT ___TOTAL DEFICIT

5.a.6. Between levels: Moves between building levels (up/down stairs, uses elevator, escalator, ramps).
RESPONSE: ___NO DEFICIT ___ PARTIAL DEFICIT ___TOTAL DEFICIT

5.b. Outdoor/Community (private): Travels outside one's home by personal/private means (e.g., car, walking, tricycle, bike) physically negotiates the environment, and finds one's way.
RESPONSE: ___NO DEFICIT ___ PARTIAL DEFICIT ___TOTAL DEFICIT

5.c. Outdoor/Community (public): Travels using public transportation; arranges for and uses

accessible transport, if necessary; plans routes on correct buses, trains, etc.; and complies with correct fares.
RESPONSE: ___NO DEFICIT ___ PARTIAL DEFICIT ___TOTAL DEFICIT

Please note: As "No-, Partial-, and TOTAL Deficit" are entered as a rating for the described activity within THIS level, further definition of the motor, sensory, cognitive, social, psychological and environmental factors affecting this performance are rated within other levels of OT FACT. Therefore, the complete functional profile would show what underlying factors are contributing OT the skill performance rating.

Accommodations

OT FACT administration can be done on a computer equipped with access features OT accommodate visual or physical dysfunction.

Interpretation of Data (process):

Computerized output of data in tabular or graphical formats. As a criterion-referenced tool, any category less than 100% represents a deficit area. Results can be compared longitudinally. The clinician can utilize a "report writer" feature to add text describing the results of the data.

Reported Reliability and Validity:

OT FACT has high content validity as it was developed directly from surveys of national practice of occupational therapists. The "branching" and trichotomous scoring system serve to create high levels of inter-rater reliability because every detail is well defined. Formalized reliability studies are in process, but some preliminary work and results have been reported. In an unpublished work (Smith, 1996, "Introduction to TTSS Scoring as Used in OT FACT: Background of the Trichotomous Tailored Sub-Branching Scoring (TTSS) Methodology"), inter-rater reliability of 15 of 24 correlations resulted in p values of <.005. As expected, areas that had more statements had higher inter-rater reliability. This study confirmed the need to develop the "branching" format of the instrument to its fullest.

There has been some preliminary, and promising, work, documenting OT FACT's usefulness in assessing outcomes when assistive technology is used. This is reported in: Davel, N.C. & Smith, R.O., "Functional Impact of Assistive Technology on People with Hemiplegia from Stroke," RESNA Proceedings, 1996.

Availability: DOS version 1 available from AOTA in the early 1990's. Windows and MacOS versions 2.0 availability and distributor in transition.
Contact:
Roger O. Smith, Ph.D., OTR
Department of Health Sciences, P.O. Box 413
Enderis Hall
Milwaukee, WI 53201-0413
Email: smithro@csd.uwm.edu

Cost: Ranges from $369 per user, $400 per academic institution, to $5,000 for large site license.

Advantages:

- Comprehensive rating of functional performance.
- Directly compares functional OUTCOMES between "no use of AT" and "use of AT."
- Permits analysis of client's satisfaction with performance, without and with use of AT.
- Instant computerized analysis of functional profile of client (with and without AT).
- Easy to learn and use, even if unfamiliar with OT FACT. Requires minimal "computer literacy" by 1997 standards. Once familiar with the information needed and the scoring process, takes about 20 minutes to complete.
- High content validity, high inter-rater reliability with minimal training.

Disadvantages or Limitations

- Truly an OUTCOMES instrument. It does not "assess" what type, or if, assistive technology is needed.

- It does not define or specify assistive technology devices (such as features on a wheelchair, measurements for a ramp, etc.).

- It does not compare or distinguish between AT devices (e.g., two different tilt-in-space wheelchairs, two different text-to-speech software packages). The clinician may need other information not collected within OT FACT to make specific AT product selection recommendations (such as, cost, durability, customizable product specifications).

The software must be "mastered" to realize it's full potential. Although quite easy and intuitive to use, it's initial ease masks it full utilization OT write reports and do other customizable features.

It's difficult to "find time" to sit and enter data into OT FACT. In our fast-paced clinical world, the clinician evaluates the client, tries various assistive technologies, documents clinically the conclusions for what worked best, and seeks funding. Even for this reviewer, sitting down (even 20 minutes) to enter ratings, can be impossible within a busy clinic. Perhaps with more hand-held, portable, wireless input devices this limitation will become less of an obstacle.

Graphical output, although usable, appear dated next to widely used charting programs such as Excel. Would be a nice upgrade to the software to include charting options and color charts.

Recommendations for Future Use

I highly recommend the use of OT FACT for future research studies to document the efficacy of the use of AT. I strongly recommend the use of OT FACT in the justification of AT to payor sources. It quantifies and portrays the tremendous functional outcome AT can have on an individual's life.

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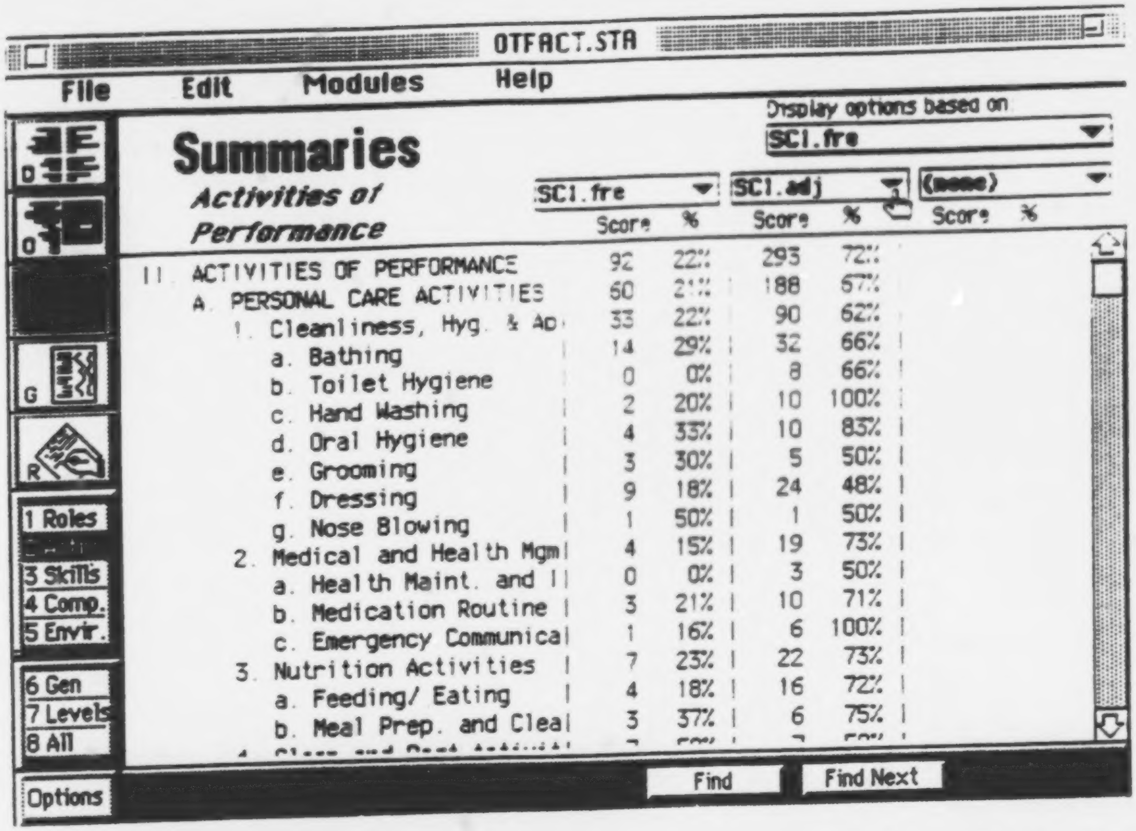
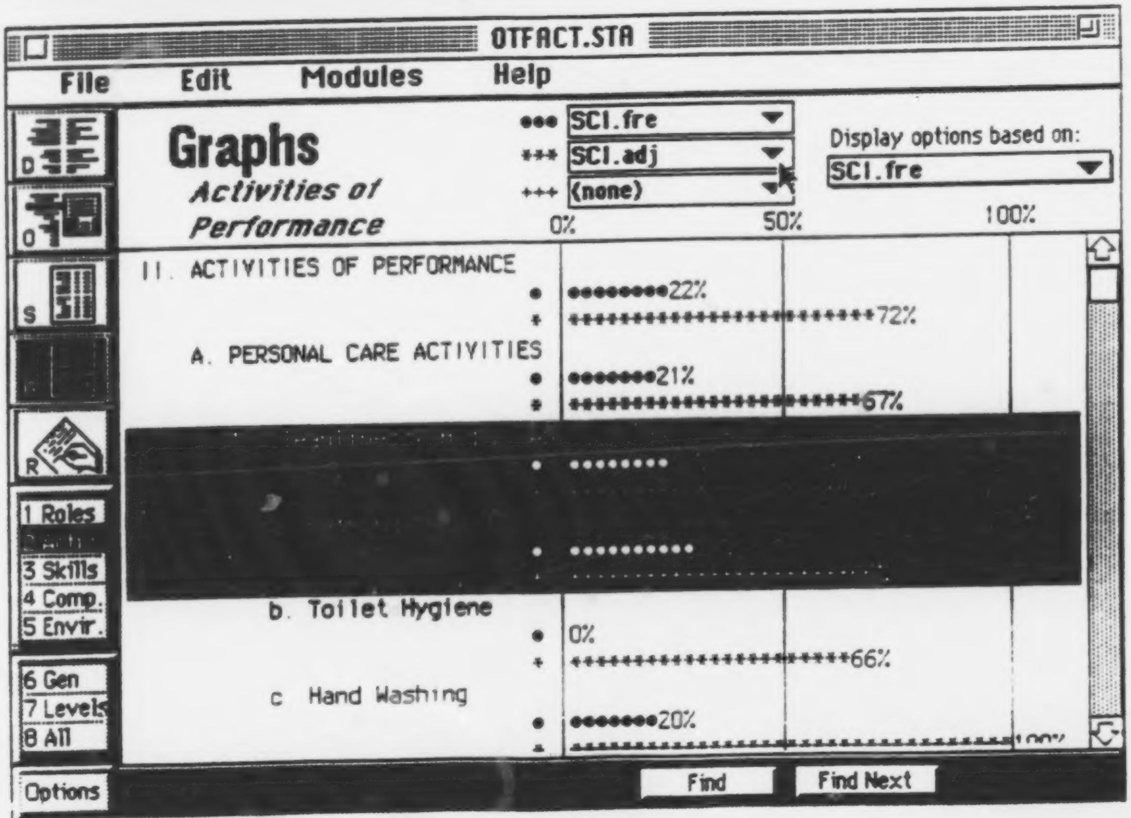

OTFACT.STA
File
Edit
Modules
Help
1 Roles
3 Skills
4 Comp.
5 Envir.
6 Gen
7 Levels
8 All
Options
Find
Find Next

Summaries

Activities of Performance

Display options based on: SCI.fre

	SCI.fre Score	%	SCI.adj Score	%	(none) Score	%
II. ACTIVITIES OF PERFORMANCE	92	22%	293	72%		
A. PERSONAL CARE ACTIVITIES	60	21%	188	67%		
1. Cleanliness, Hyg. & Ap	33	22%	90	62%		
a. Bathing	14	29%	32	66%		
b. Toilet Hygiene	0	0%	8	66%		
c. Hand Washing	2	20%	10	100%		
d. Oral Hygiene	4	33%	10	83%		
e. Grooming	3	30%	5	50%		
f. Dressing	9	18%	24	48%		
g. Nose Blowing	1	50%	1	50%		
2. Medical and Health Mgm	4	15%	19	73%		
a. Health Maint. and I	0	0%	3	50%		
b. Medication Routine	3	21%	10	71%		
c. Emergency Communica	1	16%	6	100%		
3. Nutrition Activities	7	23%	22	73%		
a. Feeding/ Eating	4	18%	16	72%		
b. Meal Prep. and Clea	3	37%	6	75%		


OTFACT.STA
File
Edit
Modules
Help
1 Roles
3 Skills
4 Comp.
5 Envir.
6 Gen
7 Levels
8 All
Options
Find
Find Next

Graphs

Activities of Performance

●●● SCI.fre
+++ SCI.adj
+++ (none)

Display options based on: SCI.fre

```
                                  0%                     50%                    100%
II. ACTIVITIES OF PERFORMANCE
                               ●  ●●●●●●●●●22%
                               +  ++++++++++++++++++++++++++++++72%
    A. PERSONAL CARE ACTIVITIES
                               ●  ●●●●●●●21%
                               +  ++++++++++++++++++++++++++++67%
                               ●  ●●●●●●●●●
                               ●  ●●●●●●●●●●●
           b. Toilet Hygiene
                               ●  0%
                               +  ++++++++++++++++++++++++++++66%
           c  Hand Washing
                               ●  ●●●●●●●20%
```

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OT FACT
Report
from file SCI act

	SCI pre		SCI act		DIFFERENCE	
	Score	%	Score	%	Score	%
II. ACTIVITIES OF PERFORMANCE	[illegible]	22%	290	72%	[illegible]	50%
A. PERSONAL CARE ACTIVITIES	60	22%	188	67%	128	46%
1. Cleanliness, Hyg. & Ap	33	22%	90	62%	57	40%
a. Bathing	14	29%	32	66%	18	37%
b. Toilet Hygiene	0	0%	8	66%	8	66%
c. Hand Washing	2	20%	10	100%	8	80%
d. Oral Hygiene	4	33%	10	83%	6	50%
e. Grooming	3	30%	5	50%	2	20%
f. Dressing	9	18%	24	48%	15	30%
g. Nose Blowing	1	50%	1	50%	0	0%
2. Medical and Health Mgm	4	15%	19	73%	15	58%
a. Health Maint. and I	0	0%	3	50%	3	50%
b. Medication Routine	3	21%	10	71%	7	50%
c. Emergency Communica	1	16%	6	100%	5	84%
3. Nutrition Activities	7	23%	22	73%	15	50%
a. Feeding/ Eating	4	18%	16	72%	12	54%
b. Meal Prep. and Clea	3	37%	6	75%	3	38%
4. Sleep and Rest Activit	7	58%	7	58%	0	0%
a. Plans/takes sleep/b	1	50%	1	50%	0	0%
b. Relaxes/quiets self	1	50%	1	50%	0	0%
c. Uses appropriate lo	2	100%	2	100%	0	0%
d. Uses appropriate po	1	50%	1	50%	0	0%
e. Regular sleep-wake	1	50%	1	50%	0	0%
f. Sufficient sleep/re	1	50%	1	50%	0	0%
5. Mobility Activities	0	0%	20	62%	20	62%
a. Indoor	0	0%	10	55%	10	55%
b. Outdoor/Community (	0	0%	9	75%	9	75%
c. Outdoor/Community (	0	0%	1	50%	1	50%
6. Communication Activiti	9	28%	29	90%	20	62%
a. Speaking	2	100%	2	100%	0	0%
b. Writing	0	0%	6	100%	6	100%
c. Reading	2	33%	6	100%	4	67%
d. Telephone	4	33%	12	100%	8	67%
e. Sexual Expression	1	16%	3	50%	2	34%
7. Assistive Device Repai	0	0%	1	50%	1	50%

test 4-18-95
RESNA 95 - Vancouver BC

OT FACT Version 2.00
test 4-18-95

Thursday June 8 1995 3:50 PM
RESNA 95 - Vancouver BC

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Self-Care Sample of OT FACT Branching Categories

- I. ROLE INTEGRATION
- II. ACTIVITIES OF PERFORMANCE
  - A. PERSONAL CARE ACTIVITIES
    - 1 Cleanliness, Hyg. & Appear.
      - a. Bathing
      - b. Toilet Hygiene
      - c. Hand Washing
      - d. Oral Hygiene
      - e. Grooming
      - f. Dressing
    - 2 Medical and Health Mgmt. Act.
      - a. Health Maint. and Improvement
      - b. Medication Routine
        - 1) Schedule
        - 2) Obtains medication
        - 3) Containers
        - 4) Selects/measures
        - 5) Administers/takes
        - 6) Stores medication
        - 7) Manages side effects
      - c. Emergency Communication
        - 1) Accesses device
        - 2) Activates device
        - 3) Sends message
    - 3 Nutrition Activities
    - 4 Sleep and Rest Activities
    - 5 Mobility Activities
    - 6 Communication Activities
    - 7 Assistive Device Repair & Maint.
  - B. OCCUPATIONAL ROLE RELATED ACTS.
- III. INTEGRATED SKILLS OF PERFORMANCE
- IV. COMPONENTS OF PERFORMANCE
- V. ENVIRONMENT

Instrument: **Lifespace Access Profile (1995) and the Lifespace Access Profile Upper Extension (1994)**

Authors:
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Sheila Wolfe, MA, OTR,
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Format of Instrument

A review of The Lifespace Access Profile (Williams, Stemach, Wolfe & Stanger, 1995) and The Lifespace Access Profile: Upper Extension manuals Williams, Stemach, Wolfe & Stanger, 1994) indicate that they are completed by recording information on a comprehensive set of 12 pages of forms. See attached for a completed sample. The manuals explain that an identified team coordinator sends a copy of the profile scales to all involved team members for completion. Each team member completes the scales to the best of their knowledge (i.e., the physical therapist would fill out the items pertaining to mobility; the speech/language pathologist may fill out the items relating to communication, etc.) Both versions of Lifespace have 59 items of short answer, and Likert-like scales. Collaboration of team members is stressed. Both versions also include a chart which plots and synthesizes the information from the scales. This chart is compiled by the team coordinator and provides a visual representation of areas of strength and weakness. It is intended to assist in program planning. Finally, both versions have a summary report to be completed by the team coordinator. This summary describes each component for a concise review of the needs from each domain.

Domain(s)

The Lifespace Access Manual (Williams, et al., 1994) describes the domains covered in The Lifespace Access Profile as information about the person's physical, cognitive, emotional, and support resources as well as the environments in which he or she uses these resources. The Physical resources domain includes the senses, general health, postural control, muscle tone, coordination, mobility support, range of motion, speed, and body sites for switch access. Cognitive resources includes reference systems for keyboards or switches, receptive and expressive communication, conversation rate, augmentative or alternative system, academic skills, computer ability, and data entry speed. Emotional resources includes attention span, distractibility, and tolerance for frustration, initiation if interactions and activities and academic interest and motivation across the subject areas. Support resources includes family, care providers and professionals and the degree to which they have adequate training, time and equipment support to implement a program for assistive technology. The environments domain includes school, home, employment, and community settings.

The Lifespace Access Profile: Upper Extension Manual (Williams, et al., 1995) explains that the Lifespace Access Profile: Upper Extension includes the same domains as The Lifespace Access Profile, however, it is designed to focus on individuals with higher cognitive abilities. For example, in the Cognitive Resources section, there is more emphasis placed on the individual's academic and computer skills. In the Environmental Analysis section, the Upper Extension evaluates the person's level of independence, use of computers, and use of assistive technology for both communication and environmental access across domains.

Purpose

Williams et al.(1995, p.1) explain the purpose as "a client-centered, team-based collection of observations that point to next steps in a comprehensive intervention utilizing technology". In 1994, The developers of The Lifespace Access created the The Lifespace Access Profile Upper Extension. The Upper Extension was designed to meet the needs of individuals whose limitations are primarily physical and do not have significant cognitive delays. These instruments aim to facilitate the inclusion of assistive technology when creating and implementing an IEP in the public school system.

Population

The Lifespace Access Profile is designed for use with individuals of all ages. It is primarily used with school aged children. The target population includes individuals with severe or multiple disabilities.

The Lifespace Access Profile: Upper Extension is also designed for use with all ages. The population differs from the Lifespace Access Profile as it targets individuals who have physical limitations without significant cognitive delays.

Setting of Administration

The authors indicate in the manuals that both versions of the Lifespace Access Profile may be administered in any setting(1994, 1995). The protocol highlights that it is ideal to observe behaviors within the environments targeted. For instance, for the questions regarding school computer use, it is ideal to determine the score from observing the individual interacting with the computer. This is one reason why the form is a collaborative effort. The parents and family members are strongly encouraged to be involved in the process as many items pertain to home and family interactions.

Materials and Tools Required

The manuals and score sheets are necessary to successfully use the instrument. Additional equipment varies from person to person. A goniometer is recommended for recording range of motion for various joints pertaining to switch access, (suggesting that an occupational or physical therapist be available). Many educational technologies are also are required to assess each domain. For example, access to a variety of assistive technology equipment, like switches and computer access devices are needed.

Method

The following steps summarize information from the Lifespace Access Profile Manual (Williams, et al., 1994) and The Lifespace Access Profile - Upper Extension Manual (Williams, et al., (1995). An administration of the Lifespace was performed for this review.
1) Identify the team to be involved. The team should involve everyone who is involved with the person. They may be contacted by phone or mail, team meeting, email, etcetera. This was not difficult to complete. In this case information was pulled form the records as a formal meeting was not possible in the given time frame.

2) Identify team coordinator who will be willing to solicit and record team observations and take responsibility for completing the profile. This person also works to ensure that assessment findings are linked to practical intervention strategies. This role may be shared or change throughout the process.

3) Each member of the team completes the full profile to the best of their ability and knowledge of the person being assessed. Completion of Profile was difficult without the help of a full team. This emphasizes the importance of having all of the information in one record and having access to all individuals on the team.

4) Periodic team meetings are held to update the team on the status of completing the profile. Identifying areas of the scale that still need to be completed is an important step at this point.

5) Once the profile is complete the team must meet to agree on the scores for all of the scales within the profile. At this time the coordinator must review and clarify all information.

6) The profile summary is completed by the team coordinator. This requires plotting the person's physical, cognitive, emotional and support resources and the domains in which those resources are used. Each rating falls into a category of strength or weakness. The plots are connected by a straight line. It is at this time that an indication can be made to note if a particular rating within the profile is fixed. A fixed rating indicates permanent disability which cannot be improve with assistive technology. The Profile Summary in graphic form is not difficult to plot once the entire profile is complete. It provides a useful visual tool to begin to analyze areas of need.

7) Using the completed profile as a guide, 3 development priorities are selected in each resource category. These are areas of weakness in which the person needs to improve.

8) Next steps are then identified by the team. They are the next logical steps in developing a working assistive technology system for the user. An example of a developmental priority is teaching use of a scanning system which the user has the capabilities for but has never used.

9) Planning issues are identified by the team. These include identifying who will complete ordering of equipment, and who will be responsible for teaching developmental priorities. Strategies and reinforcers are identified that will be needed to motivate and encourage development of new skills by the technology user.

Types of Data

a. Reporting (Self reported, reported by others)

All reporting is done by observation and through use of formal and informal testing of the individual. Some scales are subjective by nature and some objective. All scales are discussed and agreed upon by the team.

b. Performance data of device (engineering) Not applicable

c. User performance - This assessment focuses primarily on disability level of function and some information gathered on social participation.

Cost

$69.95 each for the Lifespace Access Profile for Individuals with Severe or Multiple

Disabilities and the Upper Extension for Individuals with Physical Disabilities. Included is the manual and ten 12 page protocols and ten summary report forms.

Sample questions

Sample Assessment and Program planning Questions:
"Based on previous experience, describe the conditions and types of activities in which the person learns best" (Williams, et al., 1994, p.4).

Sample Physical Resources question:
"Describe the person's ability to control and coordinate his or her body movements" (0-10 - 0=no control, 2= minimal control, 4=severe limitations, 6=moderate limitations, 8=mild limitations/inconsistent control, 10=normal control). Finally, the professional notes if the person is athetoid, ataxic, mixed, or displays interfering reflexes (Williams, et al., 1994, p.10). The other domains are similar in question format.

Accommodations

None discussed. However, this instrument does not require structured data gathering. The Lifespace Access Profile and Lifespace Access Profile Upper Extension is highly individualized. Accommodations could be easily implemented.

Interpretation of Data (process)

Instrumentation is not profiled as normative information, but is criterion based. Comparisons are not made to groups, but to individual performance in educational tasks. Also, no total score is generated. Data are summarized onto a graph, question by question. This appears to be a long process, but one which is very useful. The graph is used to identify educational intervention priorities to determine the next steps needed to progress in physical, cognitive and emotional domains. Determining present levels of performance and identifying next steps assures efficient use of time and consistent use of technology. Finally, identification of planning issues, reinforcers and strategies, support required and domains for resource development is completed for a full technology access plan. For example, a team may determine that a student would benefit from use of a scanning device on their computer. The Lifespace Access Profile provides a structured method for ensuring that one team member provides the appropriate training needed, another team member is sure that the device is ordered and yet another is responsible for being sure that all involved teachers, friends and family members are trained in the use of the device. In this way, the Lifespace Access Profile uniquely covers many areas missed in the assessment and provision of assistive technology.

Reported Reliability and Validity

The following is a summary of a telephone conversation with Gerald Stemach in October of 1997. Stemach noted that he was not aware of any formal reliability or validity studies completed on the Lifespace Access Profile or the Lifespace Access Profile Upper Extension. The author also noted that the assessment is structured to be highly individualized. There are no normative scales or standardized scales on which to base such studies.

Advantages

Lifespace Access Profile compiles a comprehensive analysis of assistive technology status and needs. Plus, it promotes a team perspective. The instrument manual and forms assist step by step consideration of the needs. The implementation of goals resulting from these assessments facilitates comprehensive assistive technology interventions.

Other advantages include the range of individuals who may be assessed. All ages and abilities are targeted. Also, materials for assessments are generally available in most equipped assistive technology programs.

Disadvantages or Limitations

There are many assets to the Lifespace Access Profiles. The instruments do have limitations, however, which must be acknowledged.

1) From an administrative perspective, its comprehensive approach superficially appears to be overwhelming. There are many detailed questions of technical focus. Thus, the time a team may require could be daunting. The time required may be prohibitive to some teams.

2) One response to the above administrative burdens to use specialized team members who are familiar and comfortable with assistive technology concepts and technology. This makes the assessments much more reasonable to administer. Having a skilled team use this assessment, however, adds the requirement of needing knowledgeable and skilled assistive technology specialists. This could be interpreted as an advantage. The assessment clarifies the skills needed by a team and highlights the importance of including assistive technology specialists in service programs.

3) The Lifespace Access Profile is designed as a diagnostic instrument. While it might be adapted to meet outcome needs, some thought and further development would be required for use as an outcome application.

4) The lack of discussion of reliability and validity is troubling. While criterion based diagnostic assessments do not need to be tested using traditional measurement development methodologies (e.g. item analyses, population standardization) discussion of the reliability and validity of using the instrument must be addressed. After all, it appears that clear cases can be made which support valid and reliable use. Empirical studies should be generated to substantiate this sound theoretical base.

Special Accommodations

While there are no identified special accommodations, This assessment is idiographic. Accommodating the person being assessed is a core assumption.

Recommendations for Future Use

This assessment may be used to determine if assistive technology goals are being met. Comparisons of before and after equipment is implemented would provide useful information of the outcome of providing such technology. However, this outcome oriented approach is not emphasized, as the Lifespace Access Profile overtly targets a diagnostic and treatment planning need.

In a phone conversation with Gerald Stemach (1997), he mentioned that a computerized version of the profile is currently being developed and may be available as soon as 3/98. This would significantly increase the efficiency and utility of the tool. Furthermore, electronic data sets would facilitate use of the profile for research in assistive technology which is so badly needed.

References

Williams, W.B., Stemach,G., Wolfe, S., Stanger, C. (1994). Lifespace Access Profile Upper Extension Manual. Sebastopol, Ca: Lifespace Access.

Williams, W.B., Stemach,G., Wolfe, S., Stanger, C. (1995). Lifespace Access Profile Manual. Sebastopol, Ca: Lifespace Access.

Stemach, G.10/30/97. Personal Communication.

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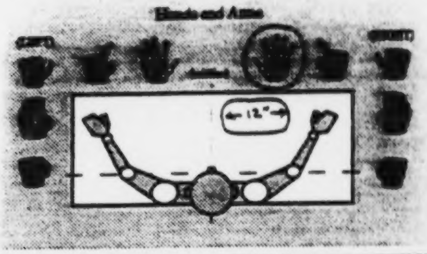
Lifespace Access Profile



Summary Report

Date: 3-15-95
Name: Michae Sample
Birthdate: 6-8-78 Age: 16yrs 9 mos.
Report Submitted By: J. Stemach, team coordinator
Issues and Concerns:
1. Next steps for assistive technology.
2. Potential vocational applications.
3. Expanding the use of assistive technology into other settings beyond school.

Physical Resources

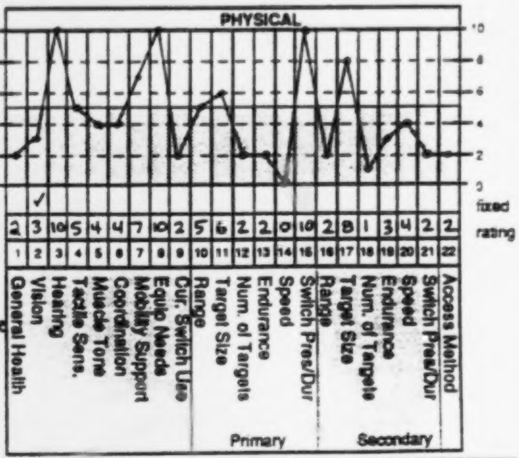
Primary Switch Access Site: Right hand, articulated fingers

Secondary Switch Access Site: Head Turning

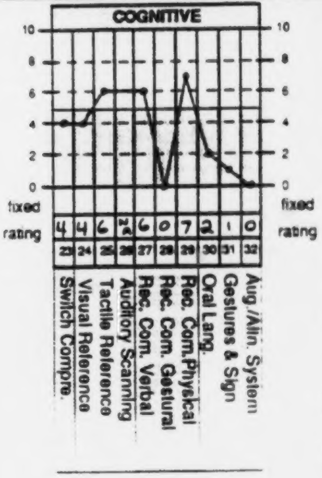
Strengths:
Hearing is within normal limits. Can hit two 2" targets in the right-of-midline portion of his tray; Equip. needs for positioning are met.

Weaknesses: Limited vision, requiring 7" objects at a distance of 12"; limited coordination of body movements; small range of motion for right hand; Endurance and speed are poor.

Resource Development Priorities:
(1) Range of voluntary hand movement may be increased (move switch ¼" per week). Range is adequate for three 2" switches presented simultaneously.
(2) Computer monitor may require a mount to position it within Michael's visual field.



	Item	fixed	rating
1	General Health		2
2	Vision	✓	3
3	Hearing		10
4	Tactile Sens.		5
5	Muscle Tone		4
6	Coordination		4
7	Mobility Support		7
8	Equip Needs		10
9	Cur. Switch Use		2
10	Range		5
11	Target Size		6
12	Num. of Targets		2
13	Endurance		2
14	Speed		0
15	Switch Pres/Dur		10
16	Range		2
17	Target Size		8
18	Num. of Targets		1
19	Endurance		3
20	Speed		4
21	Switch Pres/Dur		2
22	Access Method		2



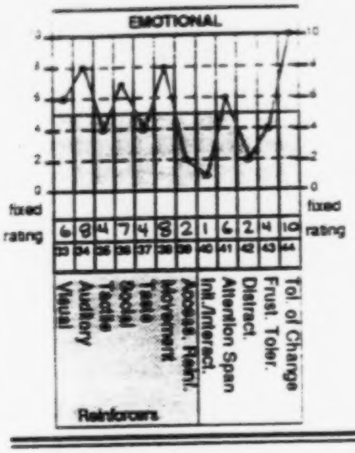
	Item	fixed	rating
23	Switch Compre.		4
24	Visual Reference		4
25	Tactile Reference		6
26	Auditory Scanning		[illegible]
27	Rec. Com. Verbal		6
28	Rec. Com. Gestural		0
29	Rec. Com. Physical		7
30	Oral Lang.		2
31	Gestures & Sign		1
32	Aug./Alin. System		0

Cognitive Resources

Strengths:
Understands cause-effect with a single switch;
May discriminate among textures and shapes;
Follows routine, 1-step directions;
Signals by vocalizing for "yes" and "no"

Weaknesses:
Visual referents (labels) must be 7" at a distance of 1 foot. Uses 1 switch at a time. No augmentative system at this time. Unfamiliar listener cannot differentiate Michael's vocalizations.

Resource Development Priorities:
(1) Introduce contingent response training (waiting for a cue before hitting the switch). This skill will be required in vocational activities.
(2) Introduce a second, unlabelled switch for discrimination training. (Do not connect the switch; take data)
(3) Texture-label the active switch controlling the reinforcer.
(4) Increase expressive communication by developing activities he can request using a switch connected to a Cheap Talk -



Emotional Resources

Strengths:
Enjoys [illegible] reinforcers and [illegible]
Enjoys interactions with peers and movement
Enjoys change in daily routine

Weaknesses:
Has only a few switch accessible reinforcers
Rarely initiates interactions
Extremely distractible

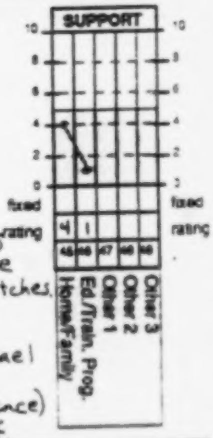
Resource Development Priorities:
(1) Software for the classroom Macintosh is very limited. Trial teach with special needs software from ATC to identify programs for purchase.
(2) Develop other reinforcers for school and home, including audio tapes with short and varied musical pieces.
(3) Integrate peers into vocational/switch activities.

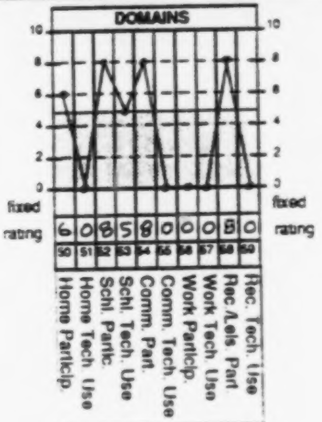
Support Resources

Strengths:
School staff and parents state they are willing but unable to implement Michael's assistive technology program at this time.

Weaknesses:
Has a Macintosh at home but no single switch access. Has limited software. Both Ed program and home have request training for vocational activities and implementing a contingent response program. Classroom reinforcers require repair. Classroom needs additional switches.

Resource Development Priorities:
Following trial teaching, using loaned devices and software from the ATC loan library
(1) Identify computer needs at home and school to give Michael access.
(2) Order appropriate equipment (school, regional center, low incidence)
(3) Provide combined trainings for school and home staff.





Domains (Participation Level and Technology Use)

Strengths:
Regularly involved in home, school, community, and rec/Leisure activities

Weaknesses:
No vocational applications
infrequent opportunities to use technology outside of school

Development Priorities:
(1) Following trial teaching, provide vocational training opportunities for single switch users including the automated office tasks (paper folding, stapling and labeling)
(2) Increase technology use at home and in the community (tape player mounted on wheelchair, Cheap Talk – for fast-food order [illegible]

Lifespace Access Profile

Assistive Technology Assessment and Planning for Individuals with Severe or Multiple Disabilities

Date 11/20/ia-

Name [redacted]

Birth Date 1-1-83 Age 13 4/10

Current Service Sites:

Home ✓

School ✓

Work

Community ✓

Therapy ✓

Other

Assessment and Planning Team List parents, care, and service providers.
Check the box beside each person providing input into this assessment.

☑ Parents

☑ Care Providers

☐ Siblings/Relatives

☑ Speech & Lang. Spec.

☑ Occupational Ther. Coordinator MS.

☑ Physical Therapist M [redacted]

☑ Adapt. P.E. Spec.

☐ Recreation Ther.

☐ Dev. Serv. Case Coord.

☑ Social Worker

☐ Behavior Specialist

Team Coordinator

☑ Teacher/Trainer MB. C

☑ Teaching Assistant [redacted]

_ Development Spec.

✓ Psychologist

_ Vision Hand. Spec.

_ Deaf/H.O.H. Spec.

✓ Nurse

✓ Physician

_ Technology Specialist

✓ Vocational Counselor

Was the individual included as an active member of the Assessment and Planning Team? ☑ Yes ☐ No

Note: Refer to the *Lifespace Access Profile* manual for detailed instructions on completing each section of this protocol.

Assessment and Program Planning Questions and Goals

1. What do team members want to learn from this assessment? What questions do team members have about the person's resources, abilities, and needs?

1) What are [redacted] current capabilities related to AT?
2) What would be helpful to order?
3) Can the AT go from home → school.

William E. Williams, MA, PPS *School Psychologist/Assistive Technology Specialist*
Gerald Stemach, MS, CCC-SLP *Augmentative and Alternative Communication Specialist*
Sheila Wolfe, MA, OTR *Occupational Therapist/Development Specialist*
Carol Stanger, MS *Biomedical Engineer*

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Williams, Stemach, Wolfe & Stanger

Assessment and Program Planning Questions (cont.)

2. What would the team like to see the person do with technology? How might technology change the person's daily life? Give examples.

[illegible] for writing composition assignments – papers

3. Write a short personal description of the person.

[redacted] is a 13 y/o boy. He has had numerous surgeries for shunt revision. He is very outgoing and enjoys social act. He is overweight due to a hormone imbalance.

4. Based upon previous experience, describe the conditions and type of activities in which the person learns best. Give examples.

[redacted] learns best c̄ visual and aud. input. He enjoys listening c̄ headphones.

5. What are the person's favorite activities or types of activity? What produces the strongest positive reaction from the person? Give examples.

1) listening to country western music
2) interaction in social activ.

6. What are the person's least favorite activities or types of activity? What produces the strongest negative reaction from the person? Give examples.

7. Describe the person's current educational, therapy, daily living, vocational training or employment goals. How could technology assist the person in meeting each of these goals?

1) completing writing task
2) completing [illegible] task in time
[illegible]

Section B

Clinical: AAC

Instrument: **MRCI RTS AAC Assessment Protocol**

Author(s): Marcy Roberts and K. O'Toole
Maryland Rehabilitation Center
Rehabilitation Technology Services

Reviewer: Pat Ourand

Format of Instrument: 2 page outline

Domain(s): Augmentative & Alternative Communication Computer Access Performance, Quality of Life, Satisfaction, Cost

Purpose

To provide the process for completion of a Augmentative and Alternative Communication Evaluation. The Process includes:

Initial Interview
Capabilities Profile
Trial Assessment
Review Assessment Finding / Finalize Equipment
Write Report
On-going Assessment

This tool enables a team member to follow a process for completion of an AAC evaluation. Specific skills and functional limitations are discussed to ensure the evaluator assesses all options. The use of this tool allows a team to identify specific equipment needs on an individualized, customized basis.

Population

Designed for adults (e.g., 16+), however may be readily adaptable for all ages.

Setting of Administration: May occur in many environments, including:
Center based, inpatient, outpatient, or home.

Materials and Tools Required

Complete inventory of AAC equipment typically utilized for verbal and written communication. Microcomputer to complete written evaluation of results.

Method

Outline to be used in : (Provide complete summary of administration, methods used to collect information using this instrument, how used, how standardized (e.g., in practice over the years, etc.)

Reporting

Clinical Observation; self-report; simulation activities (e.g., functional communication activities, writing samples).

Performance Data of Device (engineering): N/A

User performance- Function:
Impairment (organ level)
Disability (person function)
Social Participation and ADL (in community environment)

Environmental Resources

Clinical setting with complete inventory of equipment for use throughout the evaluation.

Interpretation of Data

Subjective clinical observation; objective measurements of performance between various devices.

Reported Reliability and Validity: Not Available

Cost: Cost for equipment inventory; photocopy costs for instrument duplication.

Sample Questions:
Capabilities Profile
- Current Communication
- Potential to increase natural abilities
- Cognition (Neuropsychological referral may be necessary)
- Literacy capabilities (Academic referral may be necessary)
- Language (Speech-Language Pathology referral may be necessary)
- Sensory/Perception (Occupational Therapy referral may be necessary)
- Symbol Assessment
- Motor
- Posture and Positioning

Advantages
- Provides a step-by-step process
- Identifies specific skills and limitations that must be considered when assessing for AAC equipment.
- Provides a method of comparison and quantitative analysis of various pieces of equipment.

Disadvantages or Limitations
- Requires an extensive inventory of equipment.
- Equipment must be updated continually.
- Evaluator must maintain up-to-date information on all equipment available and used in the lab.

Special Accommodations: N/A

Recommendations for Future Use

May be integrated into a formal, standardized tool for an AAC Assessment.

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Maryland Rehabilitation Center
Rehabilitation Technology Services
Augmentative and Alternative Communication Assessment Protocol

I. **Initial Interview** Prior to the arrival of the client, review the referral information and make note of any pertinent information. Call the client or referral source regarding referral questions if the necessary information was not provided with the referral.

A. Interview Client
1. Determine client's goals and expectations for the present and future (e.g., education, work, and community)
2. Determine the client's current method(s) of communication (e.g., electronic and nonelectronic)
3. Determine current and future communication interaction needs.
4. Determine what repair strategies, if any, the client uses when communication breakdowns occur

B. Interview Significant Other Persons (S.O.P., i.e. field counselor, spouse, employer, peers)
1. Determine S.O.P.s' goals and expectations for the client's present and future.
2. Determine how S.O.P.s' react to the client's communication breakdowns.

II. **Capabilities Profile** First, determine if the client's current method(s) of communication is effective. Then, determine whether or not the client's existing speech capabilities can be increased for successful communication. If not, then assess the capabilities of the client in a variety of areas in order to determine the most appropriate augmentative communication options. All items listed below may not need to be addressed at the assessment based on the client's individual skills and needs. Some items may be available via record review or other sources.

A. Current Communication
1. Operational - client's ability to use a particular communication technique (e.g. eye gaze) or system (e.g. voice output communication aid).
2. Social - client might be able to operate a device, but does he/she use it to initiate interactions?

B. Potential to increase natural abilities
1. Through vocalizations
2. Through a few intelligible words or phrases
3. Through brief messages
4. Through extensive messages with assistance to resolve communication breakdowns (i.e., assertive listening strategies by communication partner).

C. Cognition (Neuropsychological referral may be necessary)
1. Alertness and attention
2. Understanding of cause and effect
3. Ability to express preferences
4. Ability to make choices

D. Literacy Capabilities (Academic referral may be necessary)
1. Reading
   a. Letter recognition
   b. Word recognition
   c. Reading comprehension
2. Spelling
   a. Recognition spelling - client's ability to recognize the correct or incorrect spelling from several options
   b. Spontaneous spelling - client's ability to spell words letter by letter
   c. First-letter-of-word spelling - client's ability to determine first letter of a given word
3. Writing (assess legibility, rate, semantics, and syntax)
   a. Letters
   b. Words
   c. Phrases
   d. Sentences

E. Language (Speech-Language Pathology referral may be necessary)
1. Vocabulary

1. Single-word receptive language
   Assess non-relational words - words that have meaning in the real-world (e.g., couch, chair)
   2. Assess relational words - words that do not have real-world referents (e.g., in/out, up/down)
2. Syntax
3. Semantics

F. Sensory/Perception (Occupational Therapy referral may be necessary)
1. Vision (assessing vision will help determine the most effective overlay layout for the client)
   a. acuity
   b. perception
   c. tracking
2. Hearing (Audiological referral may be necessary)
3. Tactile

G. Symbol Assessment
1. Identify items or concepts the individual understands.
2. Determine the types of symbols the individual recognizes as representative of the previously identified items or concepts (e.g., alphanumerics, pictures, multimeaning icons)
3. Determine categorization and sequencing skills.

H. Motor
1. Direct Selection vs Scanning
2. Site (hand, head, foot)
3. Range, resolution (target size), and accuracy of movement (assessing this will help determine the size of locations the client needs, if an augmentative communication system is recommended)
4. Portability of system (e.g., dimensions and weight)

I. Posture and Positioning (Occupational and Physical Therapy referrals may be necessary)
1. 90 degree hip flexion
2. Symmetry in shoulders
3. Need for variety of positions (e.g., bed, wheelchair, lounge chairs)

III. Trial Assessment In most cases, the client should have a trial assessment using the communication strategies that worked best during the assessment. The client needs to use the strategies in everyday situations across environments and over time to determine if they will be effective. Determine the content and level of vocabulary that will be most functional for the client. Consult with the client and/or family to determine the vocabulary for the trial assessment. Speak with friends, employers, or instructors for any additional recommendations. Determining the amount of vocabulary needed will assist in determining the system for the trial assessment and ultimate recommendation.

IV. Review Assessment Findings / Finalize Equipment

A. Review the augmentative communication strategies that worked best for the client based on the initial and trial assessment findings.

B. See what the client prefers and make sure he/she is comfortable with your recommendations.

C. Develop an equipment list to meet the client's needs.

V. Write Report

A. Include evaluation findings and lists for recommended equipment, if appropriate.

B. Determine the client's level of experience and note additional training that will be required.

VI. On-Going Assessment Assessment is an on-going process. The needs of the client may change and, therefore adaptations to the recommended system may be needed in the future. Ideally clients should be contacted yearly.

K. O'Toole and M. Roberts
June, 1997

Instrument: **Assistive Technology Compliance Check Off for Prior Approval of AAC Devices**

Author(s): Julie Nesbit, Louisiana Assistive Technology Access Network

Reviewer: Pat Ourand

Format of Instrument: 2 page outline

Domain(s): Augmentative & Alternative Communication Computer Access across Performance, Quality of Life, Satisfaction, Cost

Purpose

To provide the process for completion of a Augmentative and Alternative Communication Evaluation. The Process includes: Speech-Language Pathologist Identifying Information, Beneficiary Information,
and Doctor's Prescription.

This tool enables a team member to follow a process for completion of an AAC evaluation. Specific skills, needs, and functional limitations are discussed to ensure the evaluator assesses all options. The use of this tool allows a team to identify specific equipment needs on an individualized, customized basis.

Population: All ages.

Setting of Administration

May occur in many environments, including: Center based, inpatient, outpatient, or home.

Materials and Tools Required

Complete inventory of AAC equipment typically utilized for verbal and written communication. Microcomputer to complete written evaluation of results.

Types of Data

a. Reporting: Clinical Observation; self-report; simulation activities (e.g., functional communication activities, writing samples).

b. Performance data of device (engineering): N/A

c. User performance- collected on many levels, Function: Impairment (organ level), Disability (person function), Social Participation and ADL (in community environment).

d. Environmental Resources: Clinical setting with complete inventory of equipment for use throughout the evaluation.

Interpretation of Data

Subjective clinical observation; objective measurements of performance between various devices.

Reported Reliability and Validity Not Available

Cost: Equipment inventory

Sample Questions

Components of Recommended Device vocabulary requirements, representation system(s), display organization and features
rate enhancement techniques, message characteristics, speech synthesis, printed output, display characteristics, feedback, auditory and visual output,
access techniques and strategies, portability and durability concerns.

Advantages

- Step-by-step process.
- Identifies specific skills, needs, and limitations that must be considered when assessing for AAC equipment.
- Provides a method of comparison and quantitative analysis of various pieces of equipment.

Disadvantages or Limitations

- Requires an extensive inventory of equipment.
- Equipment must be updated continually.
- Evaluator must maintain up-to-date information on all equipment available and used in the lab.

Special Accommodations: N/A

Recommendations for Future Use

- May be integrated into a formal, standardized tool for an Assistive Technology Assessment.

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COMPLIANCE CHECK-OFF FOR PRIOR APPROVAL of AAC DEVICES

Please indicate inclusion of the following information in the request for prior approval by filling in the page number where each section can be found in the documentation, and place this compliance checkoff sheet on top of the documentation.

1. SPEECH-LANGUAGE PATHOLOGIST IDENTIFYING INFORMATION

Page #

a. **Certificate of Clinical Competence**
ASHA Certification No
Years and type of AAC training/service experience

Page #

b. **Under supervision for Clinical Fellowship Year**
Supervisor's signature
Years of AAC training/service experience

Page #

c. **Other**
Louisiana License No.
Years of AAC training/service experience

2. BENEFICIARY INFORMATION

Page #

a. **Identifying Information**

* Name
* Medical Assistance Number
* Date of the Assessment
* Medical diagnosis (primary, secondary, tertiary)
* Significant Medical History

Page #

b. **Sensory Status**

* Vision screening
* Hearing screening
* Vision evaluation, if applicable
* Hearing evaluation, if applicable
* Description of how vision, hearing, tactile and/or receptive communication status affect expressive communication

Page #

c. **Postural, Mobility & Motor Status**

* Gross motor assessment
* Fine motor assessment
* Optimal positioning
* Integration of mobility with AAC devices
* Access methods (and options) for AAC devices

d. **Current Speech, Language & Expressive Communication Status** **Page #**

* Identification and description of the beneficiary's expressive or receptive communication impairment diagnosis
* Speech skills and prognosis
* Language skills and prognosis
* Communication behaviors and interaction skills

- Functional communication assessment [illegible]
- Past treatment
- Current communication strategies

Communication Needs Inventory Page #

- Current and projected communication needs
- Communication partners and tasks
- Communication environments and constraints

f. Summary of Communication Limitations Page #

- Description of communication limitations that interfere with current and projected daily activities

g. Components of Recommended Device Page #

- Vocabulary requirements
- Representational system(s)
- Display organization and features
- Rate enhancement techniques
- Message characteristics
- Speech synthesis
- Printed output
- Display characteristics
- Feedback
- Auditory and visual output
- Access techniques and strategies
- Portability and durability concerns

h. Identification of AAC Devices Considered for Beneficiary Page #

- Significant characteristics and features
- Cost, including all required components

i. AAC Device Recommendation Page #

- Identification of the requested AAC device including all required components, accessories, peripheral devices, supplies, and the device vendor
- Identification of the beneficiary's and communication partner's AAC devices preference
- Description of beneficiary's use with requested device
- Justification stating why the recommended AAC device is better as compared to the other AAC devices considered
- Least costly, equally effective justification

j. Treatment Plan & Follow Up Page #

- Description of short term communication goals with timelines
- Description of long term communication goals with timelines
- Assessment criteria to reach goals
- Description of amount, duration and scope of the AAC services required for the beneficiary to reach goals
- Identification and experience of AAC services provider responsible for training

3. DOCTOR'S PRESCRIPTION Page#

Instrument: **AAC CHECKLIST**

Author(s): Cynthia Cress
University of Nebraska, at Lincoln

Reviewer: Pat Ourand

Format of Instrument: paper, pencil, checklist

Domain(s): Speech/Language Pathology; Augmentative & Alternative Communication; Performance, Quality of Life

Purpose

To ascertain the level of communicative functioning for a child. This checklist examines a child's use of a variety of communication modes, including the use of: behaviors and/or gestures, symbols/icons, non-electronic words boards or electronic devices.

This tool enables a team member to provide a specific level of functioning (e.g., "The child demonstrates a consistent, readable, voluntary movement or signal"; "The child matches pictures, symbols, or signs to nonpresent objects with verbal cues"). It uses a "cueing hierarchy" , on a scale of 0 = no cue (independent) - 6 = graded manual control.

The implementation of this tool allows a team to identify current level of function, and also demonstrates success throughout the provision of service(s).

Population

Birth - 21 years; adaptable or adults with cognitive and developmental disabilities.

Setting of Administration

May occur in many environments, including: Homebound, Center based, inpatient, outpatient, home, or separate room in school setting.

Materials and Tools Required: paper, pencil, checklist

Method

This is a checklist that is used to examine a child's use of a variety of communication modes. Observations and interactions with child is necessary.

Reporting Clinical Observation

Performance data of device (engineering): N/A

User performance- Function: measured on several levels: Impairment (organ level), Disability (person function), Social Participation and ADL (in community environment).

Environmental Resources Clinical setting

Interpretation of Data Subjective clinical observation

Reported Reliability and Validity Not Available

Cost Duplication of checklist

Sample Questions:
From Checklist:
___ Indicates consistent response to particular objects/events that are interpreted as reinforcing to the child. (question #5)
___ The child can communicate a choice from among 3 or 4 present events or objects using at least one signal. (question #15)
___ The child accurately uses two symbol combinations to communicate. (question #25)

Advantages
- Checklist is readily available.
- Addresses system (e.g., behavior/gesture; symbol/picture; word/device), as well as cues required.

Disadvantages or Limitations
- May require upfront learning to understand cueing hierarchy.

Special Accommodations: N/A

Recommendations for Future Use: May be integrated into a formal, standardized tool for an AAC Assessment.

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Name:________________________ Date:__________ Session:______________

Augmentative Communication Skill Development Checklist

behav./ gesture	symbol/ picture	word or device		Lowest cue successful	Cues Used (See codes listed below)
			1. Indicates pleasure or attention shifts following activities or events. (Group 1)		0 1 2 3 4 5 6
			2. Indicates displeasure or withdrawal following activities or events. (Group 1)		0 1 2 3 4 5 6
			3. Attends to same objects/events as adult (joint attention) (Group 1a)		0 1 2 3 4 5 6
			4. Changes behavior if an action results in some consistent change in environment or activity. (Group 2)		0 1 2 3 4 5 6
			5. Indicates consistent response to particular objects/events that are interpreted as reinforcing to the child. (Group 2)		0 1 2 3 4 5 6
			6. Reinforcing objects or events can be represented by gestures, objects, and/or pictures. (Group 2)		0 1 2 3 4 5 6
			7. The child responds to joint attention signals (Group 2a)		0 1 2 3 4 5 6
			8. The child demonstrates a consistent, readable, voluntary movement or signal. (Group 3)		0 1 2 3 4 5 6
			9. The child demonstrates a consistent, voluntary physical range of the communication signal. (Group 3)		0 1 2 3 4 5 6
			10. The child uses at least one signal to communicate a desire for a particular reinforcing object or event. (Group 4)		0 1 2 3 4 5 6
			11. The child directs the communicative signals toward a listener. (Group 4).		0 1 2 3 4 5 6
			12. The child scans two objects using vision, touch and hearing. (Group 5).		0 1 2 3 4 5 6
			13. The child uses at least one signal to indicate a request or choice within a reasonable interval of time. (Group 5)		0 1 2 3 4 5 6
			14. The child spontaneously indicates a request or choice (e.g., prompt free) given clear opportunities. (Group 5a)		0 1 2 3 4 5 6
			15. The child can communicate a choice from among 3 or 4 present events or objects using at least one signal. (Group 6)		0 1 2 3 4 5 6
			16. The child can learn a new communication signal within a routine activity (e.g., "fast mapping" a gesture). (Group 6a)		0 1 2 3 4 5 6

behav./ gesture	symbol/ picture	word or device		Lowest cue successful	Cues Used (See codes listed below)
_____	_____	_____	17. The child uses a consistent signal to choose between two nonpresent or pictured objects/events. (Group 7)	_______	0 1 2 3 4 5 6
_____	_____	_____	18. The child anticipates a particular selection, and persists until a selected item is received. (Group 7)	_______	0 1 2 3 4 5 6
_____	_____	_____	19. The child matches pictures, symbols, or signs to nonpresen objects with verbal cues (Group 7a)	_______	0 1 2 3 4 5 6
_____	_____	_____	20. The child scans 3 or more picture or symbol choices (Group 8)	_______	0 1 2 3 4 5 6
_____	_____	_____	21. The child responds meaningfully to pictures in efficient placements or groupings (indicate best arrangement). (Group 8)	_______	0 1 2 3 4 5 6
_____	_____	_____	22. The child responds meaningfully to multiple pictures within a display (indicate max. number of pictures). (Group 8)	_______	0 1 2 3 4 5 6
_____	_____	_____	23. The child consistently indicates choice from among 6 options, discriminating between preferred and nonpreferred items. (Group 9)	_______	0 1 2 3 4 5 6
_____	_____	_____	24. The child quickly learns new symbol labels for known objects (i.e. fast mapping symbols). (Group 10)	_______	0 1 2 3 4 5 6
_____	_____	_____	25. The child accurately uses two symbol combinations to communicate. (Group 11)	_______	0 1 2 3 4 5 6

Cueing Hierarchy:

0 = No cue (Independent)
1 = Repeat opportunity/question, "What do you want?"
2 = Verbal prompt, e.g. "Touch the one you want."
3 = Adult model
4 = Adult model with explanation
5 = Directed operation, "Look over here. This is the ____.", "Move your hand. Closer. Now touch the ____."
6 = Graded manual control. (If eyes use hand or bright object to guide eyes and/or move object into the child's visual field.)

Adapted in part from Porter, P.B., Carter, S., Goolsby, E., Martin, N.J., Reed, M., Stowers, S., and Wurth, B. (1985). Prerequisites to the Use of Augmentative Communication Systems. Biological Services Research Center, 220-H, University of North Carolina (Division for Disorders of Development and Learning).

© Cynthia J. Cress, PhD., University of Nebraska - Lincoln, May, 1996. Acknowledgement: Supported in part by research grant number 1 K08 DC 00102 01A1 from the National Institute on Deafness and Other Communication Disorders, National Institutes of Health.

Instrument: **NY State Guidelines for Medicaid/Medicare Payors of AAC.**

Author: Contact Person: Courtney Burke,
TRAID Project, NY State Office of
Advocate for Persons with Disabilities

Reviewer: Jamie Klund

Format of Instrument: Guidelines for Medicaid funding of AAC, Guidelines for evaluation of a candidate for need and appropriateness of ACS.

Purpose

The guidelines reviewed outline basic components of a comprehensive evaluation to determine eligibility for an augmentative communication system (ACS). Persons are eligible for ACS when their ability to communicate using speech and/or writing is insufficient for normal conversation and when it has been demonstrated that an ACS will provide the individual with improved communication. The evaluation is for the purpose of determining two factors; 1. to demonstrate communication insufficiency and 2. to determine that an ACS will provide the individual with improved communication.

Population

All candidates for an ACS. Not all components apply to all patients. The following statement could be added to page 8, "The evaluating clinicians should consider all components and mark those that are not applicable". It is felt that this would clarify the point that all basic components are indeed considered and determined to be applicable or not.

Setting of Administration

This is not specified but this reviewer assumes that the evaluation will at least in part take place in the candidate's communication environment. It is stated on page 4 that the communication environment and the communication partners should be considered. It is further outlined on page 9 that both of these components will be described as part of the evaluation. It is felt that the statement should be added, "The evaluation will at least in part take place in the candidate's communication environment with their daily communication partners" should be added to clarify the importance of this component.

Materials and Tools Required

Unable to determine from the guidelines. It is assumed that as long as the basic components of this evaluation are addressed the form or type of evaluation is left to the discretion of the evaluating clinician.

Methods: Same as above.

Types of Data: Same as above.

Interpretation of Data (process): Same as above.

Reported Reliability and Validity

Again because no specific evaluation is included in the guidelines there is no reliability and validity to report.

Reviewer's Comments on Methods, Types of Data, Interpretation of Data, and Reported Reliability and Validity:

While the specific evaluation criterion is not specified in the guidelines it may be helpful to state general guidelines as to the type of evaluation data NY State would like to see in a comprehensive evaluation. While standardized assessments are not always available or applicable to a particular candidate, a general statement/paragraph on page 8 could be added to state that objective data be used when possible in all component areas of the evaluation and that standardized assessments are suggested when their use is determined applicable by the evaluating clinician. This is suggested because often only narrative data is used because of a lack of assessment tools and there is often objective data that can be collected as a baseline/assessment and collected again in a trial period to show improved communication with an ACS.

Advantages

The guidelines provided are useful in that all basic components of a comprehensive evaluation are outlined and recommended to be included in determining eligibility for an ACS. Because these guidelines are for a large and diverse population it is advantageous not to attempt to list specific evaluations to be used.

Limitations

All decisions on the type of evaluation to be used and data to be collected are determined by the evaluating clinician. This leaves a larger burden on the Medicaid approval personnel to determine if appropriate evaluations and data were used. While this is necessary for such a large and diverse population it leaves a larger margin for the type of data collected.

Reviewer's Comments on the Basic Components listed:

The components listed are thorough and pertinent. In addition to the above comments, it is suggested that the following areas be considered as additions to the components. On page 9 in the area of communication needs assessment, the conversational and written communication needs may be stated more clearly as the communication tasks that need to be completed. A statement of the description of components of the communication system that are required by this candidate seems appropriate in this section as well. It seems that in this section the environment, partner and tasks are described. This should then have a summary of the components that a ACS will need to have in order to accomplish these tasks, in these environments with these partners. In the area of sensory functioning on page 9 the areas of tactile ability - as related to communication systems and kinesthetic/body awareness - as related to communication systems should be added. In the area of treatment plan and follow up on the page 11 the area of initial set up of equipment could be added as well as repair/replacement responsibility. It may be beneficial to add re-assessment to this category as well, meaning after 6 months to a year, re-assessing the usefulness of the ACS. On page 13 of the reviewer's worksheet number 7 lists components that the reviewer looks for. Several components listed in the previous section are not listed here. It seems that these components should be identical. For example sensory skills and communication needs are missing.

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New York State Department of Health

GUIDELINES

Augmentative Communication Systems (ACS)

(effective November, 1991)

Provided to you by:

The TRAID Project

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518-473-4231 (TTY)
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Attachments

Reviewer's Worksheet
Evaluator's Worksheet

Guidelines for Augmentative Communication Systems

Introduction

Augmentative communication systems (ACSs) serve to overcome the disabling effects of communication impairment through the restoration of normal communication. ACSs are speech prostheses and should be regarded as Durable Medical Equipment (DME). They are an integral part of a speech pathology treatment plan.

An augmentative communication system represents a composite of communication components. These components include, but are not limited to, communication devices, manual signs and communication strategies. Communication devices may be comprised of a primary unit such as a computer, dedicated device, manual board, electrolarynx, or amplifier and accessories which may include but are not limited to output peripherals such as printers, communication application programs, language symbols, interfaces, overlays, cables and mounts.

Eligibility for Equipment

Persons are eligible for an augmentative communication system when their ability to communicate using speech and/or writing is insufficient for normal conversation and when it has been demonstrated that an ACS will provide the individual with improved communication. Communication insufficiency is determined by a New York State licensed speech-language pathologist upon evaluation of that individual. Eligibility encompasses all persons who have insufficient communication regardless of living and/or personal care environments. All of the components requested that comprise the ACS must be justified by a New York State licensed speech-language pathologist, in terms of their effect in producing an improvement in the communication capabilities of the patient.

If a patient, although unable to communicate using speech is nevertheless fully capable of written communication, this ability to write may, to some degree, offset the impairment of speech communication and render the need for an ACS less acute. In such cases, the Area Medical Director, when reviewing the prior approval request for an ACS, should discuss this aspect of the case with the prescribing physician and/or the speech pathologist who evaluated the patient prior to rendering a decision.

Various factors should be considered in attempting to determine if a patient's written communication ability offsets their speech impairment to the extent that an ACS is not essential to meet their communication needs. In assessing such persons for an ACS, the speech-language pathologist will determine candidacy by evaluating the person's communication needs, environments and partners to determine if handwriting is sufficient or insufficient as a means of meeting communication needs. The type of communication necessary, the communication environment, and the communication partners should be considered. For example, a patient in school or on a job may need to communicate with more than one person simultaneously over a fairly large space. Such a patient would probably be better served by an ACS than by simply writing out a note and sharing it will all intended communication partners. By contrast, a patient who is homebound and needs to communicate only with a family member or attendant, on a one-to-one basis, may have his or her communication needs fully met with a simple writing instrument or typewriter.

Evaluation and Prescription of Equipment

Prescription of an augmentative system or components shall be based on a systematic and thorough evaluation of an individual's communication abilities and needs and shall follow an evaluation consistent with a protocol that was formulated by a joint committee of Helen Hayes Hospital and members of the New York State Speech Language Hearing Association (NYSSLHA) and approved by the Department of Health. That evaluation shall be conducted by a New York State licensed speech-language pathologist in conjunction with other disciplines such as physical therapists, occupational therapists, or seating specialists as needed. This speech-language pathologist may not be a vendor of ACS systems or have a financial relationship with a vendor.

The prescription shall include specifications for the augmentative communication system and the necessary therapy and training to allow the patient to meet his/her communication potential. The prescribed system/component(s) should provide the individual with the potential for a level of communication appropriate to his/her physical, language and cognitive abilities. This includes the ability to communicate with any person desired as often and independently as possible.

Role of the Treating Physician

The augmentative communication device shall be prescribed by the patient's physician based on the recommendations made by the evaluating speech-language pathologist. The treating physician should review the professional evaluation findings and recommendations of the speech-language pathologist, and prescribe the augmentative communication system recommended if he/she feels those recommendations followed a thorough and professional evaluation and are warranted.

Trial Period

If a reasonable doubt exists regarding the ability of the prescribed device to fully meet the patient's communication needs in the most cost effective manner, the device shall be prescribed for a trial period of 30 to 90 days duration. The ACS prescribed shall be provided on a rental basis during the trial period. In addition, for a rental to be effective, all necessary components including the mounting systems, appropriate switches, guards, laptray modifications and software must be available in order for an effective trial to be successful.

Section 14 of the evaluator's worksheet provides the speech-language pathologist's determination as to whether a rental period would be indicated. If a rental period is indicated, then a transition plan must be jointly prepared in advance by the Area Medical Director and the speech-language pathologist. This plan must include:

- a schedule for evaluating the outcome of the trial;
- a schedule for the delivery of a definitive system if indicated;
- a set of trial evaluation criteria, specific to the patient that will be used to determine the suitability of the device being tested under rental.

This should allow for a final decision on the prior approval request without any interruption of service to the patient.

Since some vendors do not have adequate ACS stocks of communication devices and accessories to permit short or long-term rentals. imposition of the trial period is contingent upon availability for rental of the ACS prescribed, and should be waived if the ACS is unavailable for rental. In no instance should a prior approval request be denied solely because the ACS system prescribed is not available for rental.

In accordance with the transition plan, the patient's progress with the ACS shall be assessed by the evaluating speech-language pathologist who will summarize his/her findings and recommendations in a letter to the Area Medical Director. The Area Medical Director will review these recommendations against the agreed upon trial evaluation criteria and either approve or deny the ACS.

Many patients do not need a trial period, however, as their needs are clearly defined by the comprehensive evaluation. For these patients, the trial period is not necessary and should be waived. When the Area Medical Director is uncertain regarding the need for a trial period, the prescribing physician and/or evaluating speech pathologist should be consulted.

Modifying a System to Meet Changing Abilities/Needs of the Individual

Augmentative communication prescriptions should take into account projected changes in the individual's communication abilities and needs for at least a two year period. If changes occur in the needs, capabilities or potential for communication that cannot be anticipated, individuals are entitled to necessary modifications to their ACS when these changes occur.

Area Medical Directors will review requests for ACS modifications to ensure that the evaluating speech-language pathologist and physician have documented that significant changes have occurred in the individual's physical or linguistic abilities, or social environment, and if these changes impact on his or her ability to continue to receive the appropriate communication benefits from the ACS last prescribed.

Requests for ACS modifications must follow a re-evaluation by a New York State licensed, speech-language pathologist. This re-evaluation may be a full re-evaluation of the patient's entire range of communication abilities and needs, or it may be an abbreviated version, concentrating on the recent changes. In either case, the recommendations of the speech-language pathologist and the prescription of the patient's physician must concur that the modifications will provide the individual with the potential for increased level of communication functioning and a further reduction of disability.

Modifying or Replacing a System Due to Improved Technology

In some cases, changes in available technology may offer the potential for significantly improved communication. System modifications may be in the form of a new accessory or provision or a new communication device. An individual generally is eligible for a new communication device after five years or a new accessary after two years, if this new technology would improve communication significantly.

Replacement of Augmentative Communication System and/or Components Due to Repair Status or Loss

A person is entitled to a replacement of an augmentative system or components when there is a loss or unrepairable failure or damage. An individual will be considered for a device or component replacement upon the recommendations of a New York State licenses speech-language pathologist and the prescribing physician. The speech-language pathologist and prescribing physician will provide a statement that indicates the cause of loss or damage and that reasonable measures will be taken to prevent a recurrence.

If, in the opinion of the speech-language pathologist and treating physician, the patient's communication abilities and/or needs are unchanged, or no other device currently available is better able to meet the patient's needs than the device being replaced, a re-evaluation of the patient is not necessary. Under such circumstances, the new prescription will be for a duplicate replacement device.

An ACS different from that being replaced can also be prescribed under certain circumstances. These include, but are not limited to:

- another system/component appears more durable for this individual;
- the prescribed system/components are no longer commercially available; or
- an alternative system/component, not available at the time of the original prescription, is determined through the re-evaluation to provide the individual with greater communication benefits and reduction of disability.

Routine Repairs and Supplies

Individuals are entitled to routine repairs of their communication system not covered by warranty, as well as the necessary supplies to ensure maximum benefits from that system. Supplies include, but are not limited to, rechargeable batteries, overlays, and symbols. Paper and printer ribbons are not covered, and are the responsibility of the patient or family.

ACS Prior Approval Review Process

There are no specific criteria used in the prior approval review. The Area Medical Director is not required to perform a medical review of the prior approval request to determine if the patient has been appropriately matched to the ACS being requested. Instead, the Area Medical Director will review the results of the evaluation process as performed by the speech-language pathologist and other members of the inter-disciplinary team. If all criteria listed on the reviewer's worksheet have been met, the Area Medical Director will render a decision to accept and approve the prior approval request. It should be noted that the prescribed system should provide the necessary rehabilitative effects in a cost responsible manner. This does not mean, however, that only the cheapest system may be approved. The speech-language pathologist should make every effort to prescribe the least expensive of all ACS systems determined to be suitable for the patient. In some instances, however, the ACS system determined by the evaluation team to most effectively meet the patient's communication needs may not be the most inexpensive. Cost alone should not be the criterion used by the Area Medical Director to review the prior approval request.

If the total cost of the prescribed augmentative communication system is over $8,000, the funding request will be submitted to the Director of the Bureau of Standards Development (BSD) for central office review. This review will be conducted with input from qualified speech-language pathologists recognized as experts in the field of augmentative communication.

Evaluation of Candidate for Need and Appropriateness of ACS

Potential candidates for augmentative communication devices must be evaluated by a New York State licensed speech-language pathologist experienced in the evaluation of potential ACS candidates, and other appropriate team members, as needed.

The evaluating speech and language pathologist is reminded that one of the ethical prescriptions of the American Speech Language and Hearing Association is:

> "Individuals must neither provide services nor supervision of services for which they have not been properly prepared, nor permit services to be provided by any of their staff who are not properly prepared."

The following are basic components of a comprehensive evaluation. Not all of these components apply to all patients, however. When completing the evaluator's worksheet, the evaluating speech-language pathologist should so not the non-applicable components.

PERTINENT BACKGROUND INFORMATION

- medical diagnosis
- significant medical information/medications
- vocational/educational status
- residential setting
- social history and emotional status

COMMUNICATION STATUS AND LIMITATIONS

- description of communicative behaviors and interaction abilities
- description of current communication system
- limitations of current communicative system abilities
- emotional status as it relates to communication

CANDIDACY FOR A COMMUNICATION SYSTEM

- o statement of candidacy for an augmentative communication system

SPEECH AND LANGUAGE SKILLS

- o prognosis for speech
- o language skills
  - comprehension
  - expression
  - linguistic skills
- o prognosis for written communication

COGNITIVE STATUS

- o statement of best known status

COMMUNICATION NEEDS ASSESSMENT

- o communication partners
- o conversational and written communication needs
- o communication environments
- o placement of communication system in relation to the patient's position(s) and mobility status.
- o integration with other technology
- o patient and primary communication partner's wishes and needs re: communication
- o communication modality.

POSTURAL AND MOBILITY STATUS

- o statement of mobility status
- o information regarding optimal positioning as related to pelvis, trunk, head position and control site, if indicated
- o integration of mobility with communication system

SENSORY FUNCTIONING

- o visual ability - as related to communication systems
- o auditory ability - as related to communication systems

ACCESS

- client's ability to use a variety of techniques to access a communication system
  - describe optimal access technique(s)
  - describe selection method

SYMBOL FORM

- clients abilities to use various symbol forms
- describe optimal symbol form

DELINEATION OF FEATURES OF COMMUNICATION SYSTEM

- device specifications for most effective and efficient communication. These may include:
  - vocabulary capability/amount and expandability
  - symbol form
  - output modes
  - intelligibility of output modes
  - rate of message production
  - correctability of messages
  - independence in producing messages
  - device construction and adaptability as related to access
  - portability
  - integration with other technology
  - access/selection techniques
  - future expansion capabilities
  - language expansion and rate enhancement techniques

CONSIDERATION OF COMMUNICATION SYSTEMS AND COMPONENTS MEETING PATIENTS NEEDS

- communication systems that were considered for the patient
- comparison of system's capabilities

ABILITY TO LEARN AND USE COMMUNICATION SYSTEM/COMPONENTS UNDER CONSIDERATION

- trial of system and components
- trial with primary communication partners when possible
- comparison of patient's ability to use system(s)

COMMUNICATION SYSTEM PRESCRIBED AND JUSTIFICATION

- description
- indication of purchase or rental with statement of justification. If rental is indicated, include plan for transition to purchase
- statement as to why this system is the most cost effective
- benefits to user over other possible systems
- ability to meet projected communication needs
- statement as to how this system will provide the necessary rehabilitative, prosthetic and preventative goals of communication

TREATMENT PLAN AND FOLLOW-UP

- development of a treatment plan. This plan will include the following:
    - short and long-term communication goals
    - persons responsible for training
    - projected changes in system, if appropriate
    - initial training and basic use of communication system
    - implementation and integration into environments
    - necessary construction or modification of system to suit the user

REVIEWER'S WORKSHEET

Name:____

Date of Birth:__________________

Medical Diagnosis:____

Medicaid #:____________________

Date of Evaluation:______________

1. Packet includes:

    _____ Physician prescription
    _____ Evaluation report
    _____ Evaluation worksheet

2. Does the individual have an existing communication system that has been previously funded by Medicaid in the last five years

    _____NO

    If NO, then this prescription is considered to be a "new communication system"

    _____YES

    If YES, then this request is for a

    _____ modified communication system
    _____ replacement communication system

3. A New York State licensed speech-language pathologist has determined that this individual's ability to communicate using speech and/or writing is insufficient.

    _____YES _____ NO

4. The communication system requested consists of the following:

____ communication device
____ interface
____ language symbols
____ output peripherals
____ device accessories
____ mounts
____ therapeutic intervention

5. The speech-language pathologist has included in the evaluation a statement that the communication system will overcome the disabling effects of communication impairment through the restoration of normal communication activity to a level appropriate to the patient's physical, language and cognitive abilities.

____YES ____NO

6. An evaluation of the individual has been completed by a New York State licensed speech-language pathologist.

____YES ____NO

7. The evaluation report includes information on the following:

____ motoric skills
____ communicative abilities
____ cognitive status
____ social needs and functioning
____ speech and language skills
____ list of possible communication systems
____ features/components of communication system needed
____ description of the communication system prescribed
____ a paragraph summarizing how the communication potential of the individual will be met by the prescribed system
____ a statement explaining which alternative systems were considered and why they were rejected
____ statement of the treatment plan and follow-up training and therapy program anticipated for at least a two-year period
____ justification for purchase or rental. If rental is indicated, a plan for transition to purchase is provided

8. The evaluation report includes an analysis which results in the selection of the least costly appropriate device that will overcome the disabling effects of communication impairment through the restoration of normal communication activity to the best level possible.

____YES ____NO

EVALUATOR'S WORKSHEET

The following patient has undergone an Augmentative Communication Evaluation:

NAME:____

DATE OF BIRTH:____________________

ADDRESS:____

____

MEDICAID NUMBER:____________________

MEDICAL DIAGNOSIS:__________________________________

DATE OF EVALUATION:____________________

This checklist is to ensure that the following information is included in the evaluation report.

You have the option of summarizing each topic area in the space provided or indicating its location in the evaluation report.

1. The prescription is for:

   _____ a "new" system

   _____ modified system for a previously funded system

   - ____ If yes: Did you address changes in needs and/or potential for communication?

   _____ replacement system

   - ____ If yes:
     - _____ statement of cause of loss or damage
     - _____ statement of reasonable measures to prevent a recurrence

   _____ routine repairs and supplies

2. Communication status and limitations

____

____

3. Statement of candidacy

____

____

4. Speech and language abilities

____

____

5. Cognitive status

____

____

6. Communication needs of patient

____

____

7. Postural/mobility status

____

____

8. Sensory functioning

- Visual______________________________
- Auditory______________________________

9. Access

- Access technique________________________

- Selection method________________________

10. Symbol form

____

11. Delineation of features of communication system

____

____

12. Communication systems and components meeting patients needs

____

____

13. Ability to learn and use communication systems/components

____

____

14. Communication system prescribed and justification

Communication system and components:

____

Indication of purchase or rental:

____

15. Communication systems considered and rejected and reasons for rejection

____

____

16. Treatment plan and follow-up

____

____

PACKET INCLUDES:

- Physician prescription
- Evaluation report
- Evaluator's worksheet

NAME OF EVALUATOR:____

ADDRESS:____

TELEPHONE #________________________________

LICENSE #__________________________________

Section C

Clinical:
Wheeled Seating and Mobility

Instrument: **Assessment, Justification, and Equipment Recommendation Forms**

Authors: Adrienne Bergen
Elaine Woods

Reviewer: Jessica Pedersen

Format of Instrument

Form can have computerized entry or can be paper/pencil. Questions are mostly checklist or fill in the blank. The entire form is nine (9) pages long.

Domains

The domains fall under performance looking at physiological and physical function, activities of daily living, life style including environmental status in all areas of life.

The only quality of life statement is the subtle question under **Purpose of Evaluation**. I am familiar with the way Adrienne and Elaine do their evaluations and they always incorporate the user and family goals. This purpose section may be where user goals may be put in.. This may need to be clearer for others using the evaluation. Maybe another line asking for user's goals should be included to delineate the user goals from the reason for the referral/evaluations.

Purpose

To match the individual needs to wheelchair and seating intervention parameters.

Population

Individuals who are non-ambulatory or who require mobility for long distances or transportation.

Setting of Administration

Homebound, center based, inpatient, outpatient, home, separate room- All settings.

Materials and Tools Required Measuring tape, goniometer. May be helpful if have: mat table, simulator, trial equipment.

Method

The assessment procedure outlines information required to make a decision pertaining to wheelchair equipment. It incorporates funding information, which takes into respect the fact that certain suppliers may not be able to work with specific individuals because their insurance may dictate that they work with a certain supplier. It provides the therapist and supplier with the parameters they need to explain all the options available, but provide the funding parameters that may limit equipment choice. The person's environmental, physiological, physical, functional, and equipment status is assessed.

The first part of the form A-C could be done through the mail, phone, or using the medical chart. Part D-G describes the person's posture and movement in and out of the wheelchair. It is objective to an extent but depends on the therapists clinical skills. The findings should be able to be replicated. None of the information with the exception of Range of Motion

is standardized.
Part H and I describes equipment tried and chosen. It is not standardized.

Types of Data

a. Reporting - The information comes from user, significant other, or medical chart reported for parts A-C. Parts D-I are done by the therapists and supplier. This information is both objective and subjective. The medical and surgical history, assessment of ROM, functional and physiological skills, and type of wheelchair and seating used and objective. The condition of the wheelchair, and choice of intervention is subjective.

b. The performance data of the device not measured.

c. User Performance - This assessment looks at all categories of W.H.O in various areas of decision making. The physiological and functional skills fall into impairment and disability. The social participation and ADDLE in the community is usually a factor in determining the type of mobility device and seating recommended.

Environmental Resources: N/A

Cost

The cost of the equipment is objective based on list price. If the individual or third party payer want to negotiate, that is usually a possibility. Equipment options should not be based on price. (e.g.: the consumer should be provided with information on all the equipment that would meet his needs) Equipment choice, however is based on funding. If the individual has limited insurance the supplier will show him what the insurance will pay for and then inform him that he needs to come up with other funding to obtain the other options.

Accommodations

Accommodations are made to customize the equipment based on user needs. This occurs in equipment trial and choice sections. It is subjective information based on the skills and equipment availability of the therapist and supplier.

Interpretation of Data (process)

This is a subjective area based on the therapist and supplier skill level. Seating and Positioning does not have cook-book answers. Two very skilled professional teams (ATP and CRTS) may come up with similar equipment parameters, but have totally different product choices.

Reported Reliability and Validity: None

Advantages

Provides the therapist and supplier team with a thorough outline of areas to include in an assessment when gathering necessary information to come up with equipment parameters to meet user. medical, and therapeutic goals.

Disadvantages

Instrument is missing one area: **Transportation of equipment**. How much space is needed for transport of equipment, or if person is driving? In some states the driver's eyes must be a certain height from the floor. Also I was in a position where I asked the person how the wheelchair would be transported and was told by van. I wasn't specific in my question. The wheelchair was to be transported in the back of the second seat of the van which was 14 1/2 inches wide. I had to get a different tilt-in-space chair. So, now I have a space on my evaluation that specifically asks how much space is provided for transport of the chair.

User/family goals - already discussed previously, but will really help when looking at user satisfaction and quality of life issues.

Other physiological functions: Vascular status for edema, digestion, elimination (may be an issue)

Comments

I like the information provided on the form. I would suggest changing the format to be more user friendly. Get rid of all caps, etc. We are using this form or its likeliness in the seating chapter I am writing with Michelle Lange and Cheryl McDonald. I think it is a fantastic start for providing ATPs and CRTS with an easy to follow measurement information, especially if obvious additions are added for consumer input. Thanks format. I think it can easily be adapted to provide outcome for letting be part of the RESNA review.

CONTACT INFORMATION

Source

Adrienne Bergen, PT, ATP, ATS, CRTS
21 Roosevelt Drive   Valhalla, NY 10595
914 948 8091

Reviewer:

Jessica Pedersen
Presperin Pedersen Associates
5816 N. Moody St.   Chicago, IL 60646
773 763 7889   email: prespeders@aol.com

To whom it may concern Date:

Attached please find a detailed assessment, medical justification and equipment recommendation for:
____

who was referred to us for: ______________________
____

He/she presents as a ______________________
____

He/she presently uses ______________________
____

The problem(s) with this equipment is (are): ______________________
____

Our assessment revealed: ______________________
____
____

Our recommendation is that the following equipment be provided: ______________________
____
____

We expect the following outcomes:

1. ______________________
2. ______________________
3. ______________________
4. ______________________

All details can be found on the following pages. If you have any additional questions, please feel free to call me at ______________________

EVALUATOR: Name ______________________ TITLE ______________________
Signature ______________________
Name ______________________ TITLE ______________________
Signature ______________________

PHYSICIAN: Name ______________________ TITLE: ______________________
Signature ______________________

CERTIFIED REHABILITATION TECHNOLOGY SUPPLIER PRESENT AT ASSESSMENT
Name ______________________ Signature ______________________
Company Name: ______________________ Phone No. ______________________

The CRTS has agreed to be present at all fittings and the final delivery, and to provide technical support and service to any equipment supplied.

OTHER FAMILY MEMBERS PRESENT
______________________ ______________________ ______________________

ASSESSMENT AND STATEMENT OF MEDICAL NEED

CLIENT NAME: ______________________ EVAL DATE ______________
FAMILY NAME: ______________________ SEX____ DOB_______ AGE______
ADDRESS ______________________ HOME PHONE______________
______________________ WORK PHONE______________

FORM OF PAYMENT: PVT MEDICARE MEDICAID OTHER______________

INSURANCE: CO NAME______________________
PHONE NO ______________ CONTACT______________
INSURED ______________ SS#______________
POLICY #______________ GRP# ______________
CLIENT'S SS#______________________
CLIENT HT__________ WT__________DATE LAST WC PURCHASED__________
MEDICAID #______________________ SEQ ______________

DIAGNOSIS ______________________________________

REFERRED BY:______________________ **MD**:______________________
ADDRESS ______________________ ______________________
______________________ ______________________
PHONE # ______________________ ______________________
FAX # ______________________ ______________________

PURPOSE OF EVALUATION:______________________________________
____
____

OTHER INFORMATION ______________________________________
____

LIVING ENVIRONMENT : APT PVT HOME: single family multi family
LIVES ON ________ FLOOR(S) ELEVATOR WALK UP
________ STEPS FROM STREET LEVEL INTO BLDG
________ STEPS FROM MAIN BLDG FLOOR TO MAIN LIVING AREA
________ STEPS FROM MAIN LIVING AREA TO BEDROOM AREA
MAIN LIVING AREA: ______ BATHROOMS , AVAILABLE STORAGE: Y N; GARAGE Y N
CLEAR PATHS FOR WC: Y N; NARROWEST DOOR _______"
KITCHEN WC ACCESSIBLE Y N ______" WIDE BATHROOM DOOR
BEDROOM FLOOR: _______" WIDE BEDROOM DOOR; _______" WIDE BATHROOM DOOR

COMMENTS

A: GENERAL INFORMATION

ORTHOTICS

TYPE	YES	NO	R	L	FABRICATED FROM
TLSO					
LLB					
RGO					
AFO					
HEEL CUP					

SURGERIES

Past: ______________________________

Planned: ______________________________

VISION: Normal Limited Blind Glasses Cont Lenses Unknown N/A

COMMENTS/SPECIAL NEEDS ______________________________

VISUAL/PERCEPTUAL: comments: ______________________________

HEARING: Normal Partial Loss Uses Aides Unknown Untestable Within functional limits N/A

COMMUNICATION: verbal non-verbal receptive lang: ____________ expressive lang: ________

METHOD: Gestures Pointing Eye Gaze Signing Manual Board Electronic Aide

Product utilized: ______________________ Mounting Sys ______________

Most consistent yes/no ______________________________

RESPIRATION: adequate for breath support adequate for speech production vent dep oxygen

special equipment ______________________ comments ______________________

BREATHING PATTERN IN SITTING: abdominal thoraco/abd clavicular other: ______________

HISTORY OF CHRONIC CONGESTION: YES NO COMMENT: ______________

SOCIAL INTERACTION ______________________________

COGNITIVE LEVEL prereadiness readiness on age level dem understanding of safety self/others

COMMENTS: ______________________________

SENSATION: normal impaired non-sensate level ______________________

SKIN INTEGRITY: intact red area open area scar tissue At Risk From: TLSO AFO

Location ______________________________

Comments ______________________________

PRESSURE MANAGEMENT: skin inspection: ind assist dep Method ______________

Pressure Relief: ind assist dep Method: ______________________

B. ACTIVITIES OF DAILY LIVING

DRESSING: Indep Assist Dep Special Equip ______________________

EATING: Indep Assist Dep NG tube G tube Special Equip ______________________

ADEQUATE COORD FOR MANAGMENT OF SECRETIONS/SWALLOWING YES NO

ADEQ COORD OF RESP FOR SWALLOWING: Y N HISTORY OF GASTRO-ESOPHO REFLUX Y N

REQUIRES HEAD SUPPORT FOR FEEDING: Y N REQ HANDS ON EXT ORAL CONTROL Y N

COMMENTS ______________________________

TOILETING: Special Equip ______________

	Continent	Incontinent	Training	Catheterized
Bowel				
Bladder				

TRANSFERS: Ind Dep Assist Method: Stand-Piv Slide Lift Lifter 1 person 2 person

TRANSPORTATION: Driver Passenger Storage room in vehicle _____ x _____ x _____

Personal: car van Public/School: bus train van taxi

MOBILITY: Ambulation: N/A Dep Ind Assisted Aide: ______________________

WHEELCHAIR: MWC dep arms: 1 2 feet: 1 2 functional distance ______________

PWC: joystick switches sip-n-puff site(s) ______________________

PUSH CHAIR: stroller wc other ______________________

C. CURRENT EQUIPMENT

1. TRANSPORTER: MFG ________ SIZE ________ DATE OB ________
FUNDED BY ________ REMAINING GROWTH ________
CONDITION AND PROBLEMS ________

2. MANUAL WC. :MFG/MODEL ________ SIZE ________ DATE OB ________
FUNDED BY ________ REMAINING GROWTH ________
CONDITION AND PROBLEMS ________

BACK: MFG ________ TYPE ________ DATE OB ________
SIZE ________ FUNDED BY ________ REMAINING GROWTH ________
CONDITION AND PROBLEMS ________

SEAT/CUSHION:MFG ________ TYPE ________ DATE OB ________
SIZE ________ FUNDED BY ________ REMAINING GROWTH ________
CONDITION AND PROBLEMS ________

ACCESSORIES: HEADREST ANT CHEST SUP LATERAL TRUNK SUP LATERAL HIP SUP
MEDIAL KNEE SUP ANTERIOR KNEE SUP LATERAL KNEE SUP FOOT CONTROLLERS
LAPBELT UPPER EXTREMITY SUPPORT SURFACE
CONDITION AND PROBLEMS ________

3.MOTORIZED WC:MFG/MODEL ________ SIZE ________ DATE OB ________
FUNDED BY ________ REMAINING GROWTH ________
CONDITION AND PROBLEMS ________

BACK: MFG ________ TYPE ________ DATE OB ________
SIZE ________ FUNDED BY ________ REMAINING GROWTH ________
CONDITION AND PROBLEMS ________

SEAT/CUSHION:MFG ________ TYPE ________ DATE OB ________
SIZE ________ FUNDED BY ________ REMAINING GROWTH ________
CONDITION AND PROBLEMS ________

ACCESSORIES: HEADREST ANT CHEST SUP LATERAL TRUNK SUP LATERAL HIP SUP
MEDIAL KNEE SUP ANTERIOR KNEE SUP LATERAL KNEE SUP FOOT CONTROLLERS
LAPBELT UPPER EXTREMITY SUPPORT SURFACE
CONDITION AND PROBLEMS ________

4. CAR SEAT: MFG ________ SIZE ________ DATE OB ________ FUNDING ________
5. BATH EQUIP MFG ________ SIZE ________ DATE OB ________ FUNDING ________
6. OTHER EQUIP:

D. POSITION IN PRESENT EQUIPMENT

NOT APPLICABLE CLIENT IS Hand carried in Bed on Stretcher

HEAD: Neutral Lat Flexed (R L) Rotated (R L) Hyperextended Forward Flexed
TRUNK: Neutral Lat Flexed (R L) Rotated (R L) Shortened (R L) Collapsed Hyperext For Flexed Rounded
PELVIS: Neutral Post Tilt Ant Tilt Oblique (High R L) Rotated (Forward R L) Retracted (R L)

CHECK ALL PROBLEM AREAS:

HIPS	R	L	KNEES	R	L	FEET	R	L
FLEXED			FLEXED			FLEXED		
EXTENDED			EXTENDED			EXTENDED		
ABDUCTED						INV/SUP		
ADDUCTED						EVER/PRO		
INT ROT						TOE IN		
EXT ROT								
WINDSWPT								

E. MAT EVALUATION

GENERAL STATEMENT ABOUT TONE

	HIGH	MODERATE	LOW	FLACCID	FLUCTUATING	WNL
TRUNK						
RUE						
LUE						
RLE						
LLE						

INFLUENCE OF TONE ON MOVEMENT: ____________________
INFLUENCE OF MOVEMENT ON TONE: ____________________
INFLUENCE OF TONE ON POSTURAL CONTROL ____________________
REFLEX ACTIVITY: ATNR R L STNR R L STARTLE OTHER ____________________
AFFECT ON POSTURE ____________________
AFFECT ON MOVEMENT ____________________

COMMENTS:

F. SUPINE MAT EVALUATION

NOT PERFORMED: NOT NECESSARY NOT TOLERATED CLIENT DID NOT ALLOW

The following describes postures and alignment attainable in supine with assistance as needed.

NECK/HEAD

aligned lat flexed R L forward flexed hyper extended rotated fixed flexible corrects with difficulty

SHOULDERS

level elevated: R L both retracted: R L both protracted: R L both subluxed: R L both

TRUNK

SPINE Straight
Scoliosis: apex on R L fixed flexible corrects with difficulty
Kyphosis: mid thoracic upper thoracic fixed flexible corrects with difficulty
Lumbar space: norm flat lordotic fixed flexible corrects with difficulty

RIB CAGE Even
Rotated forward on R L fixed flexible corrects with difficulty

PELVIS

OBLIQUITY None
R higher than L by ____" fixed flexible corrects with difficulty
L higher than R by ____" fixed flexible corrects with difficulty

TILT Neutral
Anterior fixed flexible corrects with difficulty
Posterior fixed flexible corrects with difficulty

ROTATION None
R forward of L fixed flexible corrects with difficulty
L forward of R fixed flexible corrects with difficulty

LOWER EXTREMITY RANGE OF MOTION FOR SITTING

(all ranges are done with someone monitoring pelvic position, end of range occurs when pelvis shifts away from desired optimal alignment)

HIP FLEXION (no hamstring influence) R____________L____________
ABDUCTION R____________L____________
ADDUCTION R____________L____________
INTERNAL ROTATION R____________L____________
EXTERNAL ROTATION R____________L____________
NOTE INFLUENCE OF TONE:____

HIP FLEXION (consider hamstrings)
Right: When hip is at ____________ knee extends to ______________
Left: When hip is at ____________ knee extends to ______________

KNEE RANGE
R: from____________ to ______________
L: from ____________ to ______________

ANKLE:
R:neutral achieved limitation: plantar flexion dorsi flexion
L: neutral achieved limitation: plantar flexion dorsi flexion
inversion/eversion deformity: R L Both

NOTES:

G. EVALUATION IN SITTING

Based on information from the supine mat eval the client is placed n short sitting on the mat table or a bench with accommodation made for range limitations.

SITTING BALANCE WHILE ON MAT TABLE

Hands Free   Hands Dep   Assistance from examiner: Min Mod Max
Demonstrates: righting resp   equilibrium resp   protective resp
Commments: ____________________

POSTURAL CONTROL:

	Good	Fair	Poor	Fluctuates
Head				
Trunk				

NECK/ HEAD

aligned lat flexed R L forward flexed rotated R L hyper ext   fixed flexible corrects with difficulty

SHOULDERS

level elev(R L) depressed (R L) retracted (R L) protracted (R L)   fixed flexible corrects with difficulty

UPPER EXTREMITIES   DOMINANT: R L

TYPICAL POSTURE	R	L
scapula winged		
shoulder int rot		
ext rot		
high guard		
elbows flexed		
forearm supination		
pronation		
wrist flexion		
extension		

AVAILABLE UPPER EXTREMITY RANGE WITH SUPPORT PROVIDED AS NEEDED

PASSIVE	R	L	ACTIVE	R	L
shoulder flexion			shoulder flexion		
abduction			abduction		
int rot			int rot		
ext rot			ext rot		
elbow flexion			elbow flexion		
extension			extension		
forearm supination			forearm sup		
pronation			pro		
wrist flexion			wrist flexion		
extension			extension		

TRUNK				
SPINE	STRAIGHT			
	SCOLIOSIS apex R L	fixed	flexible	corrects with difficulty
	KYPHOSIS mid thor uppper thor	fixed	flexible	corrects with difficulty
	LUMBAR SPACE norm flat lord	fixed	flexible	corrects with difficulty
RIB CAGE	EVEN			
	ROTATED forward R L	fixed	flexible	corrects with difficulty
PELVIS				
OBLIQUITY	NONE			
	R ____° HIGHER THAN L	fixed	flexible	corrects with difficulty
	L _____° HIGHER THAN R	fixed	flexible	corrects with difficulty
TILT	NEUTRAL			
	ANTERIOR	fixed	flexible	corrects with difficulty
	POSTERIOR	fixed	flexible	corrects with difficulty
ROTATION	NONE			
	R FORWARD OF LEFT	fixed	flexible	corrects with difficulty
	L FORWARD OF RIGHT	fixed	flexible	corrects with difficulty

H. EQUIPMENT CONSIDERED OR TRIED AND NOT CHOSEN

(equipment not chosen for this client/family and why)

MOBILITY BASE (wheelchair/transporter)

#1______________________ #2______________________

- frame not durable
- poor wheel placement
- size not available
- won't accept seating
- difficult to manage
- too expensive
- other

BACK INSERT #1______________________ #2______________________

- size not available
- won't fit wc
- difficult to manage
- insufficient support
- too expensive

SEAT INSERT/CUSHION #1______________________ #2______________________

- size not available
- won't fit wc
- difficult to manage
- insufficient support
- insuff pressure relief
- too expensive

I. CHAIR AND SEATING SYSTEM CHOSEN AND WHY

ENVIRONMENT WHERE EQUIPMENT WILL BE USED

	FULL TIME	PART TIME
HOME		
SCHOOL/WORK		
COMMUNITY		
INSTITUTION		
OTHER		

CHAIR FRAME:

TYPE: ____________________

DRIVE SYSTEM FOR PWC: ____________________

FOLDS:side/side back onto seat only does not fold at all quick release axles

WIDTH/SMALL TURNING RADIUS NEEDED FOR ENVIRONMENTAL ACCESS: YES NO

AVAILABLE GROWTH : DEPTH __________ WIDTH __________

Future growth achieved by: cross members frame ext kit adjustment only

other: ____________________

FEATURES

LIGHT WEIGHT: self propulsion lifting family preference

PORTABILITY: increased community access storage in motor vehicle

WHEEL PLACEMENT: variable for improved access min adj max adj 1 arm drive

ANGLE ADJ BACK: 0-15 0-20 0-30 custom: postural control accommodate ROM

RECLINING BACK: ________deg manual power

pressure relief clothing or diaper changes transfers relief from gravity rest periods

DEG OF TILT: 0-30 0-45 0-60 -5-10 forward tilt manual power

facilitate postural control pressure relief transfers head pos relief from gravity rest periods

ARM STYLE:remov flip back fix height adj height adj angle desk length full length cus length

transfers variable activities strong allows wheel access surface for push ups/transfers

FOOT/LEG SUPPORT: elevating (pow man articulating) swingaway flip up fixed

angle adj knee angle adj foot depth adj foot

comfort reduce swelling accommodate ROM strong move away for transfers support

ACCOMMODATES: inserts switches joystick style/size computer access ECU capability

communication device add on seat functions (pow tilt, rec) seat elevator

ACCESSORIES AND SEATING

HEADREST: ____________________

opt positioning improve feeding improv vision safety max adj control accommodate

BACK SUPPORT: ____________________

accommodate support comfort control

LATERAL TRUNK SUPPORT: ____________________

accommodate support control alignment safety improve head and UE func

swing away for transfers contoured for more support

LATERAL HIP SUPPORT: ____________________

accommodate support control allign safety contoured for more support

ANTERIOR CHEST SUPPORT: ____________________

safety support stability alignment assist with head position assist with shoulder control

SEAT:
comfort pressure relief ease of use low maintenance inc stability accommodate
forward tilt for facilitation

LATERAL KNEE SUPPORTS
accommodate control alignment

MEDIAL &/OR ANTERIOR KNEE SUPPORT:
accommodate control position align remov/flip down for independence control tone

FOOT POSITIONERS:
accommodate control position align control tone safety stability

WHEELS/CASTERS
size for access stronger no flats for ease of maintenance remov for stowage
use over rough terrain size/placement for positioning coated for grasp projec for access

PELVIC BELT:
safety alignment indep use pad for comfort or control maintain pelvic pos special pull angle

UPPER EXTREMITY SUPPORT SURFACE
support work surface communication surface protection

OTHER: extended or angle adj push handles for caregiver access
brake extensions for access antitippers for safety
bag for: medicines clothing changes diapers orthotics special food catheters ostomy sup
larger batteries for longer distances pow seat functions gel batteries for transport safety
adjustable hardware for : growth angle changes
removable hardware for: wheelchair folding disassembly for cleaning
swingaway or retractable joystick for: table access special placement

OTHER INFORMATION

OTHER EQUIPMENT NEEDED

Instrument: **Therapeutic Seating and Mobility Evaluation Form**

Author: Janice Hunt Herman, MS, PT

Reviewer: Stephen Sprigle

Format of Instrument:

Checklist and fill-in-the-blanks, seated figure diagram used for anthropometric measures and wheelchair diagram for required seat dimensions.
The form is divided into 15 sections: Background Information, Functional Skills, Physical Examination, Mobility, Present Wheelchair, Positioning Problems, Mobility Problems, Functional Problems, Body Measures, Equipment Measurements, Wheelchair Prescription, Seating Prescription, Goals & Outcomes, Plan. These forms makeup a total of 17 pages.

Domain(s): function/performance; satisfaction with current equipment.

Purpose

The comprehensive form is designed to record the information collected during a seating and mobility evaluation.

Population All ages, all disabilities

Setting of Administration Health-care facility or site of seating/mobility evaluation

Materials and Tools Required: tape measure, inclinometer, goniometer

Method: Data is gathered by clinician during an evaluation.

Types of Data:

a. Reporting: Certain information is reported by the client and/or the family/care giver
b. Performance data of device - no
c. User performance- objective measures of body and equipment measurements; objective and subjective measures of function, flexibility, strength, and motor control
d. Environmental Resources N/A

Interpretation of Data (process)

Some interpretation of data is done by the form in the Problems' sections

Reported Reliability and Validity: none reported

Cost: No cost to clinicians for personal use in clinical evaluations

Sample Questions: See form.

Advantages:

The form is all inclusive, covering every aspect of a seating and mobility evaluation.

The Problems' sections are nicely configured for writing letters of justification. Problems encountered during an evaluation are synchronized to certain types of equipment or configurations.

The Goals & Outcomes' section is also configured for letters of justification, but since this is an evaluation form, the goals are intended' goals and not a means to judge outcomes.

Form could be set-up on a computer as a useful means to generate evaluation reports for funding agencies.

Disadvantages or Limitations

Because it is comprehensive, the form is 17 pages. Therefore, critical information for a particular funding agency can become lost in the document unless the user submits only the pertinent pages. In addition, a novice clinician might blindly follow the forms logic without problem-solving on their own. This could lead to poor equipment selection.

Special Accommodations: N/A

Recommendations for Future Use

The form could be easily configured in software to allow a clinician to enter important information and print only the sections of interest to the particular funding agency.

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Therapeutic Seating and Mobility Evaluation Form

Compiled by Janice Hunt Herman, MS, PT -- Produced by Neurobiology Institute

The attached 17 page form is designed to quickly and efficiently record the information discovered during a Therapeutic Seating and Mobility Evaluation. The information is then used to select and specify appropriate equipment and/or training. Goals and Justification for the funding of the equipment is also included.

The form is by design very detailed and lengthy in order to be all-inclusive and cover the issues presented in a wide variety of cases, diagnoses, and abilities. It also addresses the questions commonly asked by a wide variety of funding sources. This is useful to cue the evaluator to NOT FORGET important information.

However, a quality evaluation is brief and to the point. Therefore, the evaluator should use discretion and select ONLY the sections and pages that are pertinent to the particular client being evaluated, or that will be required by the particular funding agent. Many of the items can be completed as an interview or questionnaire prior to the hands-on evaluation appointment.

Because the form uses reader-friendly language, sentence style fill-in-the-blanks, and check boxes it can often serve as a stand alone "Letter of Justification", "Letter of Medical Necessity", or "Evaluation Report" in many circumstances. A brief narrative report or cover letter might be greatly enhanced by a attaching a copy of the form as "additional detailed information".

This form was originally developed by Janice Hunt Herman, physical therapist, based on her experiences in a variety of provider settings and with the valued input of many other professionals including Occupational Therapists, Speech Therapists, Special Educators, Physicians, Rehabilitation Engineers, national Medicare funders, state medical funders, Vocational Rehab funders, and Independent Living funders. Although the form was originally designed for her own use and convenience as a clinician, Janice has complied with requests from other therapists to share her format. Her belief is that by sharing our knowledge and experiences we can all improve the quality of service delivery in the field of assistive technology. Your suggestions and comments are most welcome and will help to refine future editions of this and similar evaluation forms.

This form is copyrighted and distributed solely by the NeuroBiology Institute, PC which supports this project and other clinical, educational, and research activities in the fields of assistive technology, rehabilitation, pain, and motor control.

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BACKGROUND INFORMATION

PAGE

CLIENT

Name ______________________________
Primary Diagnosis ______________________
Date of Birth ______ Age___ ☐Male ☐Female
Primary Contact Person ______________
Relation to client____________________
Phone ________________________
Address ________________________
____
Client's Residence______________________
____
Vocation or School ____________________

(identification photo)

FUNDING

Medical Record No______________________
Account No__________________________
Funding Source 1* ____________________
Policy No________________________
Funding Source 2* ____________________
Policy No________________________

EVALUATION PROCESS

Date of Evaluation __________Time_____________Place of Eval__________________________
Evaluated by ____
Others attending ____
____
Referred by ____
Reason for referral:
☐seating & positioning ☐ manual mobility ☐ power mobility ☐communication ☐ computer access
☐other ____
Information obtained from:
☐ interview with client
☐ medical records
☐ interview with therapist
☐ interview with caregivers
☐ school records
☐ other ______________________________

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HEALTH CAREGIVERS

Physician______________________________ Phone ____________________
Physician______________________________ Phone ____________________
Physical Therapist________________________ Phone ____________________
Occupational Therapist ____________________ Phone ____________________
Speech Therapist __________________________ Phone ____________________

MEDICAL INFORMATION

DIAGNOSIS

Primary:

Secondary:

SIGNIFICANT MEDICAL HISTORY

Surgical history	☐ none	☐ pending...
Seizures.................	☐ none	☐ history of...
Medications............	☐ none	
Pressure Sores.......	☐ none	☐ history of... ☐ existing...
Pain / discomfort.....	☐ no complaint	☐ complains of ...
Sensation..............	☐ intact	☐ absent ... ☐ impaired...
Proprioception.........	☐ intact	☐ absent... ☐ impaired...
Oral motor skills.......	☐ intact	☐ impaired... ☐ aspirates... ☐ drools...
Speech / comm......	☐ articulate	☐ non-verbal ☐ uses AAC device ...
Hearing..................	☐ intact	☐ impaired...
Vision....................	☐ intact	☐ impaired...
Respiratory status...	☐ no signif hx	☐ frequent RTI
Bowel & Bladder	☐ no signif hx	☐ frequent UTI
Cognition...............	☐ appears alert & oriented	☐ impaired...
Behavior................	☐ no apparent dysfunctions	☐ impaired...
Safety Awareness...	☐ no apparent dysfunctions	☐ impaired...
Social concerns.......	☐ none	

Therapeutic Seating and Mobility Evaluation

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FUNCTIONAL SKILLS

LIVING ENVIRONMENT

Resides at:

☐ house(1 or 2 stories) ☐ apt ☐ mobile home
☐ small group home ☐ resid care facil ☐ other...

Architectural features: ☐ wc accessible ☐ not wc accessible
☐ narrow hall ____" width ☐ stairs
☐ narrow door ____" width ☐ steps inside.......................... ☐ ramped
☐ small bathroom ☐ steps outside........................ ☐ ramped

Caretaker:

☐ parents ☐ staff ☐ attendant for ____ hrs daily to...

SELF CARE SKILLS

Dressing: ☐ independent ☐ dependent ...
Eating: ☐ independent ☐ dependent ...
☐ preferred positioning...
Toileting: ☐ independent ☐ incontinent ☐ diapered ☐ catheter
☐ preferred positioning...

ADAPTIVE EQUIPMENT

☐ splints
☐ computer
☐ environmental controls
☐ switches ...used for tasks:
  Type of switch:
  Switch Site:
  Activated by:
  Positioning:
  Success / failure:

☐ shower chair
☐ bath chair

LEISURE & PLAY ACTIVITIES

☐ preferred positioning...
☐ adaptive equipment...

SCHOOL / DAY PROGRAM

Location: Teacher: Goals:
Equipment:
☐ table / desk ....with ____" surface height and ____" knee clearance
used for activities including...
☐ laptray.......................used for activities including...

EMPLOYMENT

Company: Job Tasks:
Equipment: ☐ table or desk .... with ____" surface height and ____" knee clearance
☐ other adaptive equipment

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PHYSICAL EXAM

On physical examination today this client presented as....

Stature

Height____ Weight _____
☐ normal ☐ obese ☐ frail, minimal muscle bulk & many boney prominences
☐ edema
☐ recent wt gain / loss due to... ☐ weight fluctuates due to...

Social Interaction

☐ normal
☐ appears unaware of surroundings
☐ appears aware of surroundings
☐ attempts to interact by...

Skin Condition

☐ appears normal
☐ frail (prone to breakdown)
☐ tissue breakdown noted....

Orthopedic Deformities

SPINE:

Scoliosis....... ☐ R ☐ L Cervical concavity ☐ mild ☐ severe ☐ fixed ☐ flexible
☐ R ☐ L Thoracic concavity ☐ mild ☐ severe ☐ fixed ☐ flexible
☐ R ☐ L Lumbar concavity ☐ mild ☐ severe ☐ fixed ☐ flexible
Rib hump....... ☐ R ☐ L
Kyphosis....... ☐ mild ☐ severe ☐ fixed ☐ flexible
Spinal Flexibility...... ☐ WNL flexible ☐ able to get flat lumbar spine ☐ fixed...

PELVIS:

Pelvic Flexibility...... ☐ pelvis can be moved into neutral ☐ limited flexibility
☐ pelvis begins to post tilt after ____R hip flex ____ L hip flex
Pelvic tilt.................... ☐ ant ☐ post ☐ fixed ☐ flexible ☐ correctable to ...
Pelvic obliquity........ ☐ R ☐ L side down ☐ fixed ☐ flexible ☐ correctable to ...
Pelvic rotation.......... ☐ R ☐ L side forward ☐ fixed ☐ flexible ☐ correctable to ...

HIPS:

Windswept................ ☐ to R ☐ to L ☐ fixed ☐ flexible ☐ correctable to ...
Abducted.................. ☐ R ☐ L ☐ fixed ☐ flexible ☐ correctable to ...
Leg length............... ☐ short ____ ' on Right Left

Other significant findings...

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PHYSICAL EXAM (CONT)

Flexibility

Hamstrings................☐ WNL ☐ mild tightness ☐ severe tightness
☐ when hip is fully flexed, pelvis tilts if knees extended beyond ____

Range of Motion......☐ WNL ☐ limited...

	ROM limitation	Preferred Resting Position
Pelvis		
Trunk		
Neck		
Hips		
Knees		
Ankles		
Shoulders		
Elbows		
Wrists		

Motor Control

Tone...........................☐ flaccid ☐ hypotonic ☐ hypertonic
☐ spasticity triggered by...
☐ spasm triggered by...

Reflexes.................. ☐ abn postural reflexes... ☐ ATNR ☐ STNR ☐ Tonic Lab
☐ dominated by associated reactions...
☐ poor Righting reactions

Movement............... ☐ functional ☐ non-functional ☐ athetoid
☐ purposeful ☐ non-purposeful ☐ poorly coordinated
☐ unable to isolate jt movements...
☐ patterned full limb movements...

Performance Consistency.....☐ poor endurance
☐ rapid mm fatigue
☐ stress or exertion provokes...

LE Strength............. ☐ normal ☐ impaired...
UE Strength............ ☐ normal ☐ impaired...
Standing Balance....☐ normal ☐ impaired...
Sitting Balance (tested on flat surface)................ ☐ able to indep & wt shift with hands free
☐ able to maintain static upright trunk with hands free
☐ falls to side, needs hands to prop
☐ unable to prop self, needs external support
Head Control........... ☐ normal ☐ impaired...
Hand Function........ ☐ normal ☐ impaired...
Preference for ☐ right ☐ left
Arm Function.......... ☐ normal ☐ impaired
☐ crosses midline ☐ reaches shoulder height ☐ reaches overhead

Other Significant Physical Findings

MOBILITY

GROSS MOTOR MOBILITY SKILLS

☐ **non-ambulatory**
☐ **crawls** for mobility indoors
☐ **stands...** ☐ with manual asst ☐ in stander for ___minutes. ___x day/week
☐ **transfers**:
style:
assist ☐ ind ☐ min ☐ mod ☐ max ☐ mechanical lift
☐ **ambulates**
speed and distance:
assist: ☐ ind ☐ min ☐ mod ☐ max
device: ☐ ankle-foot orthosis ☐ walker ☐ crutches
gait deviations:

WHEELCHAIR USE

Total time used : ______hrs/day ______hrs/session
☐ continuous ☐ intermittent ☐ primarily for meals and transportation
Weight shifts:
☐ indep ☐ uses arms ☐ uses recliner ☐ uses tilt-in-space ☐ dep on asst
☐ adequate for pressure relief ☐ NOT adequate for pressure relief
Self-propel:
☐ manual - hands ☐ hand & foot ☐ power ☐ impaired because...
Terrains:
☐ indoor
☐ rural (grass, gravel, dirt)
☐ urban (sidewalks & pavement)

Accessibility problems...

TRANSPORTATION

Wheelchair is transported:
☐ collapsed ☐ folded ☐ dismantled
☐ trunk of car, weight of wc is_________lbs. lifted by_______________
☐ family van (see below)
☐ school or facility's bus or van
☐ public bus / van
☐ airlines

Vehicle: year_____ make_________ model________ with doorway clearance height of ____ inches.
Client is passenger, enters via ☐ power lift ________" wide X ________" long
☐ ramp
☐ transfers into reg car seat
Client drives this vehicle ☐ from wheelchair ☐ after transferring into the driver's seat
☐ stores wc independently, (where)..............

Safety ☐ Wheelchair tie downs are available ☐ NOT available
☐ Shoulder & lap safety belts are available ☐ NOT available

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PRESENT WHEELCHAIR

WHEELCHAIR BASE: *Client presents today in a...*

SIZE ☐ standard adult ☐ narrow adult ☐ pediatric size ☐ custom size
STYLE ☐ manual wheelchair ☐ power wheelchair ☐ tilt in space ☐ recliner
☐ stroller ☐ scooter ☐ other...

BRAND________________ **MODEL** ________________ **SERIAL NUMBER**________________________

PURCHASED _____ years ago from (supplier) ____________ using ________________ funding.

SERVICE & maintenance provided by____

FEATURES: *This wheelchair has the following features:*

SEAT
- ☐ sling seat
- ☐ solid seat base
- ☐ solid padded seat
- ☐ other...

CUSHION
- ☐ none
- ☐ 1" or 2" polyfoam padding
- ☐ homemade cushion of...
- ☐ other...

PELVIC / THIGH SUPPORT
- ☐ lateral pads (R, L, bilat)
- ☐ pelvic stabilization strap
- ☐ abductor wedge
- ☐ adductor pads (R, L)
- ☐ other...

BACK
- ☐ sling back
- ☐ solid padded back
- ☐ other...

THORACIC SUPPORT
- ☐ bilateral (high / low)
- ☐ right (high / low)
- ☐ left (high / low)
- ☐ horizontal chest strap
- ☐ other...

SHOULDER
- ☐ butterfly strap
- ☐ bilateral straps
- ☐ "H" harness
- ☐ other...

HEADREST
- ☐ flat padded ___x___
- ☐ other...

ADDITIONAL FEATURES
- ☐ laptray
- ☐ anti-tip tubes
- ☐ power controls on right / left with a __________ joystick

LEGRESTS
- ☐ fixed 70 / 90 degree
- ☐ elevating
- ☐ swingaway
- ☐ other...

FOOTPLATES
- ☐ 90 degree flip up
- ☐ adjustable angle
- ☐ solid footboard
- ☐ heel cuffs / loops
- ☐ shoe holders
- ☐ instep straps
- ☐ other...

ARMRESTS
- ☐ fixed
- ☐ adjustable height
- ☐ detachable
- ☐ full length arm pads
- ☐ desk length arm pads
- ☐ other...

FRAME PROBLEMS:
- ☐ poor mechanical condition
- ☐ wheel locks are non-functional
- ☐ tires are worn
- ☐ frame is too small / wide / narrow
- ☐ needs to be replaced
- ☐ unsafe because...
- ☐ needs repairs estimated at $........
- ☐ has useful remaining life of .....
- ☐ electronics have history of problems
- ☐ other

SEATING SYSTEM PROBLEMS:
- ☐ does not offer sufficient postural support
- ☐ upholstery is worn, torn, stretched
- ☐ other
- ☐ will not allow optimum posture because...
- ☐ does not fit (too big, too small)

CLIENT'S LIKES & DISLIKES

POSITIONING PROBLEMS

Client exhibits the following seating posture and positioning problems...

POOR OVERALL POSTURE

☐ Posture is dominated by abnormal tone and reflex patterns;
☐ Posture is dominated by muscle spasm / spasticity;
☐ Posture is dominated by hypertonicity;
    ☐ will need to encourage more flexion to break up ext pattern.
    ☐ will need to close down the seat to back angle to about ______degrees.
    ☐ will need to wedge seat up in front to increase hip flexion.
☐ Posture is dominated by hypotonicity;
    ☐ will need more proximal stabilization.
☐ Posture is dominated by existing orthopedic deformities;
☐ Poor sitting posture puts at risk for developing permanent structural deformities;
    ☐ will need to accommodate ...
    ☐ will need to correct ....
☐ Other....

TRUNK

☐ Client is unable to maintain upright sitting posture, and tends to fall to ________;
    ☐ will need BiAngular Back to encourage lumbar lordosis and thoracic extension.
    ☐ will need lateral trunk support pads to hold trunk erect & aligned.
☐ Scoliosis will need to be accommodated / corrected;
    ☐ will need 3 way blocking to correct the alignment as tolerated.
☐ Other....

SHOULDERS

☐ Client exhibits a slumped kyphotic posture, rounded shoulders, forward head, gooseneck (hyperextension);
    ☐ will need shoulder straps, ☐ and a chest panel, ... to hold shoulders upright.
    ☐ will need rigid shoulder stabilizers to hold shoulders upright.
    ☐ will need solid back to provide better support.
    ☐ will need wedge seat to align head behind pelvis.
☐ Client needs to reach behind which will require scapular cutouts.
☐ Other....

PELVIS

☐ Pelvic rot / pelvic obliquity causes asymmetrical wt bearing especially on the R / L;
    ☐ will need pelvic obliquity wedge built into the R / L side of the seat to correct / accommodate.
☐ Client tends to slide forward in the seat with post pelvic tilt and sacral weight bearing;
    ☐ will need solid seat base to provide better support.
    ☐ will need wedge seat up in front to discourage pull of gravity.
    ☐ will need specialized cushion to stabilize and control the pelvis, such as ...
    ☐ will need pelvic stability strap to secure pelvis in better alignment.
☐ Client has tight hamstrings which tend to pull the pelvis into post pelvic tilt;
    ☐ will need to provide at least ___° knee flexion to allow the hamstrings to relax
☐ Client has limited Hip ROM ;
    ☐ will need seat to back angle of ________.
☐ Other....

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POSITIONING PROBLEMS (cont)

LEGS & FEET

☐ Legs are windswept with knees to the R / L & pelvis migrating to the R / L;
☐ Legs tend to abduct / adduct;
☐ Femurs are poorly aligned;
    ☐ will need adductor pads on R / L
    ☐ will need abductor wedge
    ☐ will need pelvic pads on R / L
☐ Feet are at risk because...
    ☐ will need to secure feet with instep straps, ☐ toe straps, ☐ heel cuffs, ☐ shoe holders.
☐ Other....

ARMS

☐ Arms are at risk because..
    ☐ will need R / L armtrough, ☐ laptray for support, ☐ adjustable height armrests.
☐ Other....

HEAD

☐ Poor head control causes client to ...
    ☐ will need headrest with post support , ☐ lat support, ☐ ant support
    ☐ will need to allow head rotation,
    ☐ will need to encourage horizontal line of vision
☐ Other....

PRESENT SITTING POSTURE
Describe or Use photo if available

OPTIMUM SITTING POSTURE
Describe or Use photo if available

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MOBILITY PROBLEMS

This client exhibits the following mobility problems and needs:

PERSONAL MOBILITY

☐ Client is dependent on wc for all mobility;
☐ Lack of independent mobility limits access to the home, community, school, job:
☐ Client is at risk for an overuse induced impairment of UE, shoulder girdle, & neck:
☐ Client is unable to manually propel independently because ...:
    ☐ will need an attendant to push.
    ☐ will need power mobility base / wheelchair.
☐ Manual propelling is not functional / efficient because...:
    ☐ will need more efficient manual propelling.
    ☐ will need extended push handles (pegs) on rims.
    ☐ will need lightweight wc.
    ☐ will need alignment of shoulders over axle for improved power stroke.
☐ Client uses only one arm to propel;
    ☐ will need hemi height wc to allow R / L foot to assist propelling.
    ☐ will need one arm drive on R /L.
☐ Other....

POWERED MOBILITY

☐ Appears to have cognitive and judgmental decision-making skills for safe power driving;
☐ Simulator or mock up testing reveals fine motor control, reach, and grasp are adequate for power driving.
    ☐ will need full-time dedicated power mobility base or power wheelchair.
    ☐ will need to optimize control of joystick by using a handle style of ____ with placement at ....
☐ Has impaired hand function;
    ☐ will need client to drive using... .
    ☐ will need special switches such as ________ with placement at....
☐ Client needs occasional, intermittent power mobility
    ☐ will need an add-on power unit.
☐ Other....

TRANSFERS

☐ Difficulty transferring creates a safety risk;
    ☐ will need swingaway or removable ☐ legrests, ☐ armrests.
☐ Caregivers will require additional training in correct transferring and positioning of client in the wc;
    ☐ will need seat height to be level with transfer surface.
☐ Other....

VEHICLE TRANSPORT

☐ For safer & more efficient transporting of the wc in the vehicle;
    ☐ will need to fold wc. ☐ collapse wc. ☐ dismantle wc easily with quick release hardware.
    ☐ will need as light weight as possible to facilitate lifting it
☐ Van entrance will accept head clearance of <________" which will need to be accommodated :
☐ Van lift will limit the overall size / weight of wc .
☐ Van ramp will limit the overall size of wc.
☐ Client is unsafe driving / riding in a wc in a vehicle because...
    ☐ will need a seating system that can be used as the client's vehicle seat.
    ☐ will need a separate car seat.
☐ When driving or traveling in moving vehicles, client needs additional support for safety and stability:
    ☐ will need wc tie downs.   ☐ vehicle's shoulder & lap safety belt.
    ☐ will need horizontal/diagonal chest strap   ☐ head rest.
☐ Other....

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FUNCTIONAL PROBLEMS

This client exhibits the following functional problems and needs:

PRESSURE SORE

- ☐ Client is at risk for skin breakdown and tissue trauma because ...
  - ☐ asymmetrical weight bearing pressures .
  - ☐ exhibits multiple boney prominences especially on....
  - ☐ frail stature with minimal muscle bulk .
  - ☐ unable to adequately weight shift independently.
  - ☐ has prior history of decubitus ulcer.
- ☐ Client will need to improve pressure relief by
  - ☐ training ☐ recliner wc ☐ tilt in space wc ☐ specialized seat cushion, such as...
- ☐ Other....

LIMITED SITTING TOLERANCE

- ☐ Use of wc is limited to _____minutes per session which is inadequate for functional activities.
- ☐ Use of wc is limited by rapid muscle fatigue, ☐ by discomfort / pain due to....
  - ☐ will need frequent repositioning by ...
  - ☐ will need frequent reclined positioning for periodic rest and energy conservation
  - ☐ will need Recline wc ☐ will need Tilt-in-Space wc
  - ☐ will need improved positional support at a reduced energy cost
  - ☐ will need more comfortable seating
- ☐ Other....

ADLs

- ☐ Client hooks arm to reach which will require scapula cut-outs.
- ☐ Client uses table access for functional activities;
  - ☐ will need to adjust the seat height to < = > ____" above the floor so knees clear table apron.
  - ☐ will need desk length armrests. ☐ will need laptray for function activities.
- ☐ Functional and tabletop activities will require a more upright sitting position.
- ☐ Client is at risk for aspiration when swallowing;
  - ☐ will need to support head & neck in a more ☐ upright position ☐ reclined position.
- ☐ Communication needs to be facilitated by positioning in ☐ more upright position, ☐ other position ...
- ☐ Client has impaired respiratory or cardio-pulmonary function,
  - ☐ will need equipment to allow him/her out of bed & encourage longer sitting times.
  - ☐ will need to support the chest cage in a more upright position to facilitate lung expansion.
- ☐ Other....

SAFETY RISKS

- ☐ Client lives in group home / institutional setting with high staff turnover;
  - ☐ will need to instruct caregivers in proper use, maintenance, and safety of equipment.
  - ☐ will need to keep seating system as simple as possible with few removable parts.
- ☐ Client is at high risk for loss or mis-use of any removable components;
  - ☐ will need to secure all removable parts with tie-downs or labels.
- ☐ Client needs to independently work the wheel locks;
  - ☐ will need extended handles on wheel locks.
- ☐ Other....

GROWTH & STATURE

- ☐ Client is a rapidly growing child;
  - ☐ will need growth potential and adjustability in the frame & seating system.
  - ☐ will need at least annual adjustments for sizing as he/she grows.
- ☐ Present wheelchair offers a poor fit and size for this client:
  - ☐ will need correct size ☐ custom sizing ☐ heavy duty frame ☐ Other....

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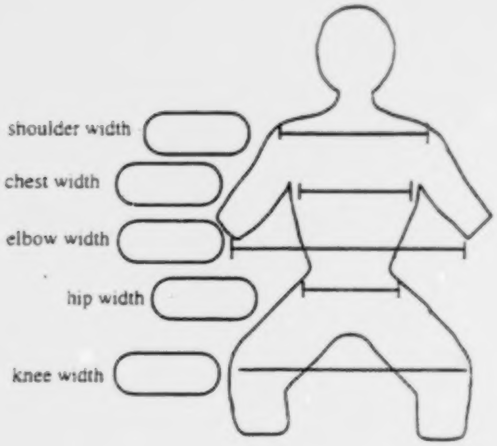
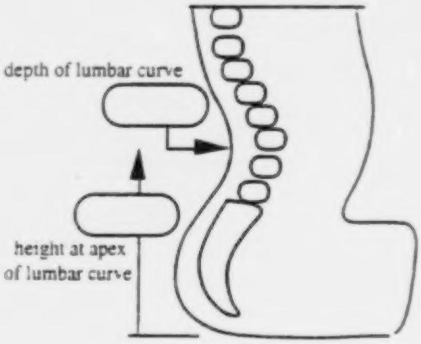
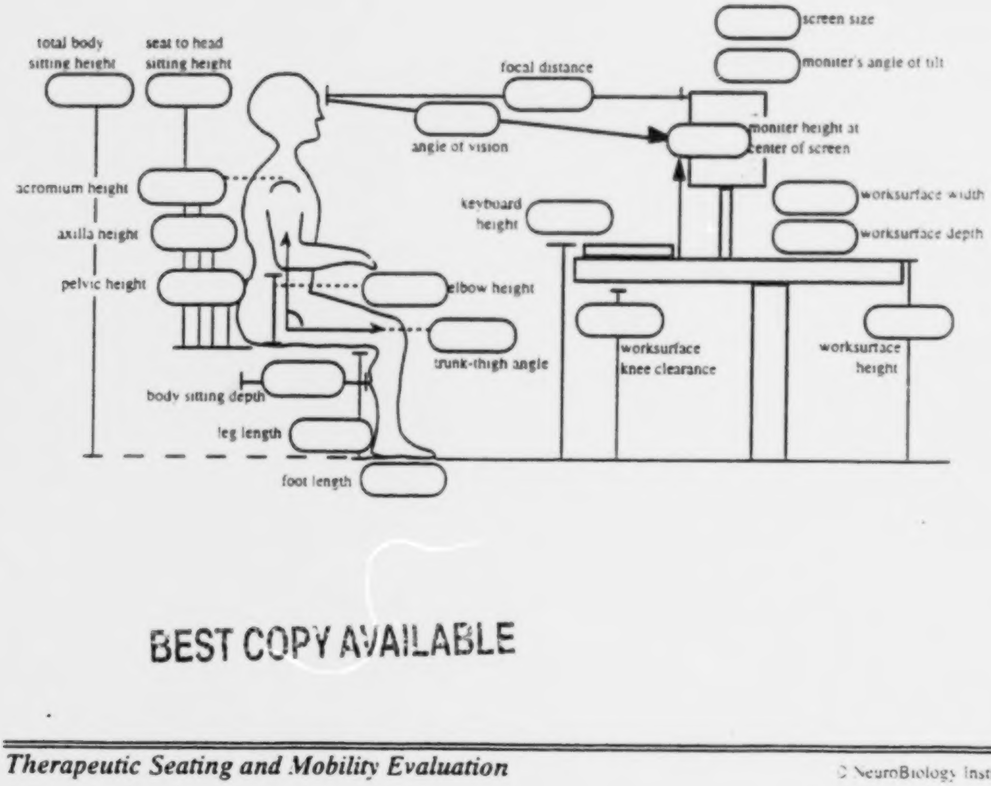
BODY MEASUREMENTS

The seating system and wheelchair frame should accommodate this client's body measurements.


shoulder width
chest width
elbow width
hip width
knee width


depth of lumbar curve
height at apex
of lumbar curve


total body
sitting height
seat to head
sitting height
focal distance
screen size
moniter's angle of tilt
angle of vision
moniter height at
center of screen
acromium height
axilla height
pelvic height
keyboard
height
worksurface width
worksurface depth
elbow height
trunk-thigh angle
worksurface
knee clearance
worksurface
height
body sitting depth
leg length
foot length

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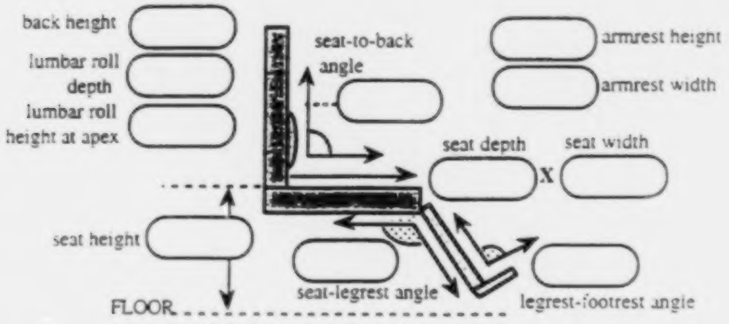
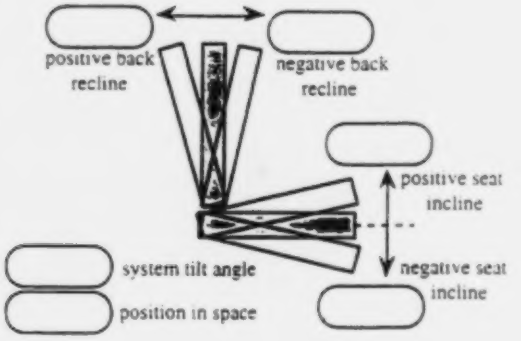
MEASUREMENTS FOR EQUIP

The recommended wheelchair and seating system for this client will required these dimensions.


back height
lumbar roll depth
lumbar roll height at apex
seat-to-back angle
armrest height
armrest width
seat depth
X
seat width
seat height
seat-legrest angle
legrest-footrest angle
FLOOR


positive back recline
negative back recline
positive seat incline
negative seat incline
system tilt angle
position in space

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WC PRESCRIPTION

This client will require a wheelchair with the following features:

WHEELCHAIR FRAME

SIZE .... ☐ standard adult ☐ narrow adult ☐ pediatric ☐ width... ☐ depth...
STYLE........... ☐ rigid frame ☐ folding frame ☐ light weight ☐ hemi height
☐ manual wheelchair ☐ power wheelchair ☐ tilt in space ☐ recliner
☐ stroller ☐ scooter ☐ other...

such as a **BRAND**______________ **MODEL** ______________ **COLOR**__________

WHEELCHAIR FEATURES:

WHEELS:
☐ 22" ☐ 24"
☐ pneumatic ☐ solid
☐ flat free inserts
☐ mag ☐ spokes
☐ rims ☐ pegs
☐ other

CASTERS:
☐ 6" ☐ 8"
☐ poly urethane
☐ pneumatic
☐ solid
☐ other

WHEEL LOCKS:
☐ extensions
☐ high push
☐ other

FOOT PLATES
☐ 90 degree flip up
☐ adjustable angle
☐ solid footboard
☐ heel cuffs / loops
☐ shoe holders
☐ instep straps
☐ other

LEGRESTS
☐ fixed 70 / 90 degree
☐ elevating
☐ calf pads
☐ swingaway
☐ other

ARMRESTS
☐ fixed
☐ flip-up
☐ adjustable height
☐ detachable
☐ full length arm pads
☐ desk length pads
☐ other

ADD'L FEATURES
☐ laptray
☐ anti-tip bars
☐ omit seat / back
☐ other

POWER
☐ power controls on
R /L with a ________ joystick
☐ battery recharger
☐ electromagnetic wheel locks
☐ other

FOLLOW-UP

☐ Return visit by therapist and supplier is required for fitting the client, final adjustment of the equipment, and instruction.

JUSTIFICATION

This wheelchair is required to provide personal mobility for this non-ambulatory client. It will also provide an appropriate mobility base for a supportive seating system.

☐ This equipment will be required indefinitely; client's condition is permanent.
☐ This equipment is likely to need replacing in about ____ years
☐ This equipment will require annual adjustments for....

Client's Name______________________________ Phone__________________________
Supplier's Name _____________________________ Phone__________________________
Signature of Prescriber______________________________Date__________________

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SEATING PRESCRIPTION

The seating system for this client will require the following features:

SEATING SYSTEM

SEAT ___" deep x ___" wide
☐ solid seat base to serve as a base for cushion
☐ solid padded seat
☐ set horizontal to the ground
☐ dropped / raised about ___"
☐ wedged up in front
☐ adjustable for growth...
☐ other

CUSHION
☐ 2" ☐ 3"polyfoam pad
☐ gel floatation
☐ air floatation
☐ custom contour foam mold
☐ such as ...
☐ with commercial cover
☐ upholster in vinyl / rubitex, color...
☐ other

PELVIC STABILIZATION
☐ strap1" 1.5" 2" wide flexible webbing
☐ closes using ☐ clip buckle ☐ flip-up
☐ button ☐ velcro
☐ attach to seat bottom
☐ subASIS bar, custom installed and fitted
☐ other

PELVIC / THIGH SUPPORT
☐ lateral pelvic support
☐ lat prox thigh support (femoral bolster)
☐ medial thigh support (abductor wedge)
☐ lat distal thigh support (adductor pads)
☐ (R, L, bilat), size...
☐ with concave padding
☐ on flip-down / swingaway hardware
☐ on sliding hardware
☐ hardware to allow medial-lateral adjustability
☐ other

BACK
☐ low / high back
☐ solid with 1" 2" polyfoam padding
☐ fixed seat-to-back angle ______
☐ with adjustable seat-to-back angle
☐ mounted at custom height of _____
☐ fixed recline (rear tilt) about ____degrees
☐ scapular cut-outs
☐ other

THORACIC SUPPORT
☐ positioned 2" below the axilla bilat
☐ positioned high / low on **right** side
at ___"above seat surface
☐ positioned high / low on **left** side
at ___"above seat surface
☐ size...
☐ swing-away
☐ adjustable height
☐ custom contoured
☐ with concave padding
☐ horizontal / diagonal chest strap
☐ other

SHOULDER
☐ butterfly chest panel ☐ "H" harness
☐ shoulder (backpack) straps (R / L / bilat)
☐ rigid shoulder stabilizers
☐ custom contoured
☐ swing away mounting
☐ other

HEADREST
☐ occipital support ☐ lateral support
☐ flat padded ☐ contoured padded
☐ height adjustability
☐ ant-post adjustability
☐ other

FOLLOW-UP

☐ Return visit by therapist is required to design & shape the custom contours and/or fit of seating system
☐ Return visit by therapist and supplier is required for fitting, adjustment, and instruction.

JUSTIFICATION

This seating system is required to provide a positioning aid while in the wheelchair. This will support the client's posture which, in turn, will allow improved functional activities and decreased risk of pathology.

☐ This equipment will be required indefinitely; client's condition is permanent.
☐ This equipment is likely to need replacing in about ____ years
☐ This equipment will require annual adjustments for....

Client's Name______________________________ Phone____________________________
Supplier's Name ____________________________ Phone____________________________
Signature of Prescriber____________________________Date__________________

Therapeutic Seating and Mobility Evaluation

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GOALS AND OUTCOMES

The recommended intervention will achieve these long term goals and desirable outcomes:

POSITIONING

☐ Support upright sitting posture with good spinal alignment
☐ Maximize potential for improved trunk / head / upper extremity control
☐ Position the lower limbs in safer, more neutral alignment
☐ other

TONE & REFLEXES

☐ Normalize tone and reflex patterns.
☐ Provide additional stabilization
☐ other

DEFORMITIES

☐ Reduce the risk of permanent structural deformities.
☐ Accommodate and support existing orthopedic deformities and ROM limitations
☐ other

MOBILITY

☐ Provide dependent mobility to allow access to the community (school, job).
☐ Provide independent power mobility to allow access to the community (school, job).
☐ Maximize potential for safe, efficient manual propulsion
☐ Maximize access to home, school, and community
☐ Facilitate safe and energy efficient transfers.
☐ other

TRANSPORT

☐ Provide a lightweight, folding, manual wheelchair base for ease of transporting.
☐ Improve safety during transporting in moving vehicles
☐ other

PRESSURE RELIEF

☐ Reduce the risk of skin breakdown and tissue trauma.
☐ Disperse the weight bearing pressures.
☐ other

SITTING TOLERANCE

☐ Improve sitting tolerance time.
☐ Improve positional support to reduce energy cost and fatigue
☐ other

ADLs ☐ Provide seat height that is compatible with table access
☐ Promote more independent ADL and UE function
☐ Improve respiratory & cardio-pulmonary function.
☐ Reduce the risk of aspiration by providing a posture which facilitates swallowing.
☐ other

GROWTH ☐ Allow growth potential and adjustability
☐ Provide a wheelchair with proper fit and size.
☐ other

CLIENT / CAREGIVER'S GOALS

☐ Provide a low profile appearance
☐ Improve comfort
☐ other

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PLAN

1. Submit............ ☐ this Evaluation Form with photos
☐ Evaluation Narrative Report with photos
☐ Letter of Medical Necessity
☐ Wheelchair Prescription
☐ Seating System Prescription
☐ other
to...................
☐ Dr.______________________
☐ Vocational Rehab
☐ Medicare
☐ other
......for approval.

2. If approved, the equip will be provided by ...
☐ the Rehabilitation Technology Supplier contracted by the funding agent
☐ a Rehabilitation Technology Supplier selected by _______________
☐ other...

3. Client should be seen again by ______________________________
☐ for equip check-out
☐ for equip fitting and adjustment
    ☐ for follow-up....
    ☐ for training, specify...
    ☐ other...

4. Additional follow-up is recommended:

5. Copies of this eval will be sent to...

______________________________ Signature of Evaluator (s)

____________ Date

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Instrument:	**Physical Therapy Dept. Patient Information Forms** (Patient Info., Sitting Functional Evaluation, Action Plan) **Measurement Checklist for Ordering A Seating System** **High Tech Power Wheelchair Checklist** **Wheelchair Requisition Form**
Submitted by:	Antje K. Hunt, M.S., P.T., A.T.P. Rancho Los Amigos Medical Center
Reviewer:	Nigel Shapcott

Format of Instrument

Paper, Pencil, Checklist, Open ended questions, Diagrams

Domain(s): Function/ Performance

Purpose

Collection and recording of information pertinent to wheelchair and seating evaluation, justification, prescription, adjustment and repair.

Population

Not defined- but could be used with a wide range of ages and disabilities.

Setting of Administration: Specialist outpatient center.

Materials and Tools Required Paper, pencil, mat table

Method

Administered by interview and physical examination. Linear measurements by tape and I assume rotational data by estimation or goniometer (standard clinical practice).

Types of Data:

a. Reporting: I assume that both self reported and reported by others would occur in this environment depending on the communication status and cognitive ability of the client (standard clinical practice). Not possible to determine if this is objective or subjective

b. Performance data of device (engineering) Not applicable.

c. User performance

1) Impairment (organ level) : By record of diagnosis, vision, vital capacity. Likely to be objective.

2) Disability (person function): Potentially comprehensive. Open ended questions. Likely to be objective.

3) Social Participation and ADL in community environment:
Potentially comprehensive; open ended questions. Likely to be subjective.

d. Environmental Resources: Potentially comprehensive. Open ended questions. Likely to be subjective.

Cost Data Time of assessment cost, otherwise none.

Sample Questions See instrument.

Interpretation of Data None built in.

Reported Reliability and Validity

No information on this. However instruments such as these are in widespread use in clinical practice.

Advantages

1. Once established this is a low cost training device which sets a standard for an institution.
2. Very low costs to reproduce the instrument.
3. Portions of the instrument can be used as required.
4. Comprehensive listing (data) of clients status and functional requirements.
5. Good checklist
6. Designed in such a way so as not to limit solutions, i.e., a variety of outcomes are possible from simple solutions to very complex technical solutions.
7. No special training required to use instrument (i.e., pencil and paper).

Disadvantages or Limitations

1. Time consuming to use.
2. Further documentation may be required to obtain required Assistive Technology.
3. Frequently uses open ended questions which may lead to inappropriate responses in those unfamiliar with the protocol.
4. Difficult to collect data for outcomes or other research, (i.e., transcription, interpretation required).

Recommendations for Future Use:

This is a good example of a comprehensive evaluation instrument. Collection and analysis of other examples such as this and in this class could lead to the development of standard paper based and computer based data collection systems which could further lead to the development of decision support systems both paper and computer based, as well as to the development of excellent training tools.

Additional Comments

The forms have been developed over several years and were initially used religiously. However over time they have developed sufficient familiarity and expertise to not have to use them consistently. The instruments are lengthy to use and not all the information is needed for all the evaluations. With experience they have learned to limit their assessments to collecting only data relevant for that particular evaluation, i.e., a relatively simple need such as a cushion selection may well not need as lengthy an assessment as a highly complex powered wheelchair for an individual with a high level spinal cord injury.

They have found that the instrument is very useful as a training device for new staff members and takes them through a well thought out assessment protocol.

CONTACT INFORMATION

Source
Antje K. Hunt M.S., P.T., A.T.P.
Seating Leader
Rancho Los Amigos Medical Center Physical Therapy Dept.
7601 E. Imperial Highway, Downey, CA 90242

Reviewer:
Nigel Shapcott, B.Sc.(Hons.), M.Sc., A.T.P.,
Assistant Professor,
Center for Assistive Technology,
Forbes Tower, Suite # 3010
University of Pittsburgh Medical Center
200 Lothrop Street, Pittsburgh, PA 15213-2582
tel. 412-647-1310 and fax. 412-647-1322
E-mail: Shapcott@pitt.edu

RANCHO LOS AMIGOS MEDICAL CENTER
PHYSICAL THERAPY DEPARTMENT

Date: ____

PATIENT INFORMATION

NAME: ____ Height: ____ Weight: ____

A. MEDICAL HISTORY:

1. Diagnosis/History (include surgeries and description of disability): ____

2. Motor: ____

3. Sensory: ____

4. History of Pressure Sores: ____

B. FUNCTIONAL ABILITIES:

1. Ambulation: ____

2. **Transfers:**

Type of Transfer: ____
Assistance Needed: [ ] Independent [ ] Assisted [ ] Unable

3. **Pressure Relief:**

Method of performing a RAISE: ____
Assistance Needed: [ ] Independent [ ] Assisted [ ] Unable
Frequency of RAISE's: ____

4. **Communication:**

[ ] Verbal [ ] Non-Verbal [ ] yes or no answers only
Primary Language: ____
Comments: ____

5. Vision: ____

6. Vital Capacity: ____ ml

RANCHO LOS AMIGOS MEDICAL CENTER
PHYSICAL THERAPY DEPARTMENT

Date: ____________

PATIENT INFORMATION

B. SOCIAL HISTORY:

1. Current Residence:

Describe: [ ] House [ ] Apartment [ ] SNF
[ ] Owns [ ] Rents
Accessibility (into home and inside home, ramps): ____________________
____
____

2. **Assistance in Home:**

[ ] Functions independently
Primary Caregiver: ____________________
Attendant Care: ________ , ________
# of Attendants Hours/Day
Name of Attendant(s): ____________________

3. **Transportation:**

Describe: [ ] Van [ ] Car [ ] Bus/Dial-a Ride/Public Trans.
Van Brand: ____________________
Van Door Dimensions: ____________________
Does patient require assistance to be transported: ____________
Can patient drive from the wheelchair: ____________

4. Activity Level:

Work/School/Recreational: ____________________
____
____
Describe Terrain: ____________________
____
Average Daily Use (Distance): __________ miles/day
Time in Wheelchair (Sitting Tolerance): ________ hrs/day

C. **REASON FOR REFERRAL/ PATIENT GOALS:** ____________________
____
____
____

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RANCHO LOS AMIGOS MEDICAL CENTER
PHYSICAL THERAPY DEPARTMENT

Date: ____________

SITTING EVALUATION

Test Position:

Sitting upright in the wheelchair (or at the edge of a mat), positioned to the rear of the seat and in the middle of the seat.

Description of Present Sitting Position:

Pelvis	Tilt:	______°	[ ] anterior [ ] slight post.	[ ] neutral [ ] posterior
	Rotation:	[ ] neutral	[ ] Rt forward	[ ] Lt forward
	Obliquity:	[ ] neutral	[ ] Rt down	[ ] Lt down

Legs: ______________________________
Feet: ______________________________

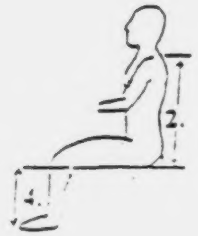
L-Spine Posture: ______________________________
T-Spine Posture: ______________________________
C-Spine Posture: ______________________________

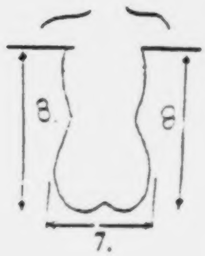
Head position: ______________________________
Arms: ______________________________

Description of scoliosis: ______________________________
____

Description of other deformity: ______________________________
____

Measurements:





	Left	Right		Left	Right
2. back ht (to Acromion)	_____	_____	7. hip width		_____
2. back ht (to Inf Ang)	_____	_____	8. axilla ht	_____	_____
4 seat rail to heel	_____	_____			

* measure **back ht.** and **axilla ht.** from seat rail with patient on cushion

Comments: ______________________________
____
____

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RANCHO LOS AMIGOS MEDICAL CENTER
PHYSICAL THERAPY DEPARTMENT **Date:**__________

SUPINE EVALUATION

Test Position:

Hip: 90° hip flexion, 0° hip abd/adduction, 0° hip IR/ER
Knee: 70-90° knee flexion
Ankle: 0° DF, 0° inv/eversion
Pelvis: neutral pelvic tilt, no rotation of the pelvis, no obliquity
Spine: normal lumbar, thoracic and cervical curves. No scoliosis.

☐ Check here if the user is able to achieve the test position

ROM:

		Left	**Right**	(measured in degrees)
Hip	ext-flexion	______	______	
	aDd -0- aBd	______	______	
	IR -0- ER	______	______	
Knee	ext-flex with 90° or max hip flexion	______	______	
Ankle	DF	______	______	
	inv	______	______	
	ever	______	______	

Flexibility:

*Position pelvis in neutral & describe spine relative to this position.

L-Spine: ☐ achieves neutral ☐ fixed in excessive flexion ☐ fixed in excessive extensio
T-Spine: ☐ achieves neutral ☐ fixed in excessive flexion ☐ fixed in excessive extensio
C-Spine: ☐ achieves neutral ☐ fixed in excessive flexion ☐ fixed in excessive extensio

Scoliosis Major:______________________________
Secondary:______________________________

Measurements:

	Left	**Right**		**Left**	**Right**
1. hip width		_____	5. chest depth	_____	_____
2. seat depth.	_____	_____	6. chest width		_____
3. leg length	_____	_____	7. axilla height	_____	_____
4. back height	_____	_____	8. head height		_____

Comments:______________________________
____
____

RANCHO LOS AMIGOS MEDICAL CENTER
PHYSICAL THERAPY DEPARTMENT

Date: __________

DESCRIPTION OF PATIENT'S EQUIPMENT

A. WHEELCHAIR DESCRIPTION:

☐ Manual Wheelchair ☐ Power Wheelchair

Manufacturer & Model: ______________________, ______________________
Serial # Year Received

Recliner/Tilt: ____________, ____________, ____________, ____________
Manual or Power Specify tilt and/or recliner Manufacturer Year Received

Frame	Width:	_____	Armrests:	__________
	Depth:	_____	Legrests:	__________
	Back Height:	_____	Footrests:	__________
	Color:	_____	Rear Wheels:	__________
			Front Casters:	__________
	Overall Width:	_____	Overall Length:	_____

Drive Control: ______________________________

Recliner Control: ______________________________

Other Components: ______________________________

B. SEATING SYSTEM DESCRIPTION:

Seat: solid/upholstery seat angle: _____ width x depth: __________
Comments: ______________________________

Back: solid/upholstery back angle: _____ width x height: __________
Comments: ______________________________

Cushion: ______________________________
Date cushion issued: __________

Other seating components: ______________________________

C. PROBLEMS WITH CURRENT SYSTEM:

Wheelchair: ______________________________

Past History of repairs: ______________________________

Seating System: ______________________________

Estimate of Cost of Repair: $__________ Done by (Vendor): __________

RANCHO LOS AMIGOS MEDICAL CENTER
PHYSICAL THERAPY DEPARTMENT

Date: __________

FUNCTIONAL EVALUATION

A. FUNCTIONAL EVALUATION OF PRESENT SEATING SYSTEM:

1. Sitting Balance:

Static & unsupported: ____________________
Reaching: ____________________
Pushing or driving the w/c: ____________________

2. Pressure Relief:

Quality of Pressure Relief from the cushion: ____________________

Quality of Pressure Relief from the seating system: ____________________

3. Interfering Factors:

Effect of Tone or Postural Reflexes on Sitting Position: ____________________

Effect of a Raise on Sitting Position: ____________________

Effect of Sitting Position on Ability to Make Eye Contact: ____________________

4. Overall Comfort of the system (Scale of 1 - 10): _____
(where 1 = extremely uncomfortable and 10 = excellent comfort)
Comments: ____________________

B. EVALUATION OF WHEELCHAIR MOBILITY:

Method of Wheelchair Propulsion: ____________________

Evaluation Wheelchair: ____________________

Assistance Needed:
- Level Surfaces: ____________________
- Uneven Surfaces: ____________________
- Ramps: ____________________
- 36" sidewalk: ____________________
- Curbs: ____________________
- Wheelies: ____________________

Adaptive Equipment (or Drive Control Parameters) needed for Independent Use: ____________________

Driving Safety and Judgement: ____________________

Comments: ____________________

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RANCHO LOS AMIGOS MEDICAL CENTER
PHYSICAL THERAPY DEPARTMENT

Date: ______

ACTION / PLAN

INTERVENTION:

FOR: ☐ Manual Wheelchair
☐ Power Wheelchair

Adjustments to present wheelchair/seating system:

☐ No modifications performed
☐ Wheelchair modified as follows: ______

☐ Seating system modified as follows: ______

Equipment used for trial:

☐ Wheelchair not available / not needed for trial
☐ Trial Wheelchairs: ______

☐ Trial Seating Equipment: ______

Description of Proposed Wheelchair & Seating System: ______

☐ **wheelchair** - refer to specification sheet / order form
☐ **seating system** - refer to specification sheet / order form

Equipment issued:

☐ Wheelchair issued as ordered
☐ Seating system issued as ordered
☐ Also issued: ______

Patient / Caregiver training performed:

______

PLAN:

☐ Will request repairs
☐ Will prescribe a new wheelchair. Refer to specification sheet
☐ Will prescribe new seating equipment. Refer to specification sheet
☐ Other: ______

☐ Send to (Vendor Name): ______

[illegible]

RANCHO LOS AMIGOS MEDICAL CENTER
PHYSICAL THERAPY DEPARTMENT
SEATING CENTER

MEASUREMENTS NEEDED FOR ORDERING A SEATING SYSTEM

1. Hip Width: ____________________

Position: Supine or sitting
Measure: Widest points - trochanter to trochanter

2. Seat Depth: L ______ R ______

Position: Supine or sitting
Measure: Back of sacrum to popliteal fossa

Note: Feel for tight medial hamstring tendon which can shorten seat depth; if L/R difference is 2" or more, orders asymmetrically cut seat.

3. Back Height: L ______ R ______

Position: A. Supine with maximal spinal correction, hips and knees flexed to approximately 90 degrees. L ______ R ______
B. Sitting L ______ R ______
Measure: Sitting surface (ischial plane) to the top of the shoulders.

Note: If supine/sitting difference is <2", divide by 2 and add to smaller measurement.

4. Leg Length: L ______ R ______

Position: Supine or sitting, ankle in neutral.
Measure: Popliteal fossa to heel of foot or shoe if one is worn.

Note: In case of a plantar flexion contracture measure to most distal surface used for weight bearing.

5. Sitting Height: ____________________

Position: A. Supine, in maximal spinal correction.
B. Sitting
Measure: Sitting surface to top of head.

Note: Divide difference by 2 and add to smaller measurement.

6. Chest Width: ____________________

Position: Supine or sitting
Measure: Axilla to axilla

Note: Protracted shoulders may cause anterior measurement to be smaller than posterior. Decide which measurement allows trunk to fit between trunk supports.

7. Chest Depth: L ______ R ______

Position: Supine or sitting
Measure: Posterior to anterior chest at nipple line or lower.

Note: Trunk pad size, shape and hardware is determined by this measurement.

8. Total Sitting Width: ____________

Position: Sitting
Measure: Distance between widest points.

Note: May or may not determine basic chair width.

AH:aa
8/3/89
(Ordering.Sys)

RANCHO LOS AMIGOS MEDICAL CENTER
PHYSICAL THERAPY DEPARTMENT

HIGH TECH POWER WHEELCHAIR CHECKLIST

Patient Name:______________________________ Height:_____" Weight:_____lbs

☐ 1. Patient has a functional need for:

- ☐ a. Power wheelchair mobility
- ☐ b. Alternate driving control
  - ☐ hand ☐ left ☐ right
  - ☐ chin
  - ☐ sip and puff
  - ☐ other:____________
- ☐ c. Hi-tech electronics
  - ☐ short throw
  - ☐ latch with kill switch
  - ☐ integrated controls
- ☐ d. Power recliner
  - ☐ reg/low sheer
  - ☐ sliding back (old zero sheer)
  - ☐ tilt in space

☐ 2. Patient is independent and safe for community power wheelchair use.

☐ 3. Accessibility:

- a. Discharge destination:
  - ☐ an apartment ☐ a house
  - ☐ skilled nursing facility or equivalent
- b. Access into home:
  - ☐ no stairs at all
  - ☐ steps at entrance, how many:_______
  - ☐ has ramp at entrance ☐ plans to build a ramp
  - ☐ wheelchair will fit through front door? (Y/N)
- c. Inside home, the following rooms are accessible (Y/N):
  - ☐ bedroom ☐ bathroom ☐ kitchen

☐ 4. Financial - Ability to fund maintenance and repairs on chair

- ☐ a. Medi-Cal
- ☐ b. Private insurance that will pay for repairs
- ☐ c. restricted Medi-Cal, no insurance

☐ 5. Transportation - Patient has the ability to transport power wheelchair to attend medical appointments.
Specify:____
____

RANCHO LOS AMIGOS MEDICAL CENTER
HIGH TECH POWER WHEELCHAIR SPECIFICATION FORM

PATIENT NAME: ______________________ **DATE:** ______________
PHYSICAL THERAPIST: ______________________ **VENDOR:** ______________

POWER WHEELCHAIR

MANUFACTURER: ______________________
MODEL: ______________________

FRAME:
☐ sectional
☐ upright ☐ omit back assembly
☐ reclining ☐ omit back assembly
☐ power base ☐ omit seat
☐ custom lower seat height 2" (not all models)

width: __________"
depth: __________"
back height: __________"
COLOR: __________

ARMREST TYPE:[1,2] ______________________
☐ omit pads ☐ arm pads only

FRONT RIGGING:[1,3]
☐ swing away ☐ omit
☐ elevating ☐ roller bumpers
☐ 90°/90° ☐ reverse footplates
☐ offset bracket for calf pad
☐ calf pads only
* Set Footrests at: __________" from seat rail

UPHOLSTERY:
☐ omit
color: __________

REAR WHEELS:
size: __________"
type: __________
☐ flat free inserts/ZPT's

CASTERS:
size: __________"
type: __________
☐ flat free inserts/ZPT's

CONTROL TYPE:
☐ hand: ☐ left ☐ right ☐ midline
☐ chin ☐ sip and puff ☐ other: __________
position: ______________________
hardware: ______________________
Description of joystick control: ______________________

ELECTRONICS:
☐ specify base electronics: __________
☐ integrated controls[6]
specify: ______________________
☐ latch control[6]
☐ short throw ☐ 50%
☐ custom: Fwd:___, Rev:___, L:___, R:___

BATTERY CHARGER:
☐ lead acid
☐ dual (gel/lead acid)

☐ AUTO BUCKLE HIP BELT
☐ AUTO BUCKLE CHEST BELT
☐ VELCRO CHEST STRAP

POWER RECLINER

MANUFACTURER: ______________________
TYPE:
☐ low-shear
☐ sliding back
☐ rotational/tilt-in-space
☐ tilt-recliner combo

SEAT WIDTH:[5] __________"
SEAT DEPTH: *pan depth:*[4] __________"
frame depth: __________"
ADJ. SEAT WEDGE:
☐ 1-5° ☐ 5-15°
BACK HEIGHT: __________"
UPHOLSTERY COLOR: ______________________

ARMRESTS TYPE:[1,2] ______________________
☐ Include reclining arm hardware

ARM TROUGHS (from which company): ______________________
☐ La-bac arm troughs
flat pads: ☐ 4x12" ☐ 4x15" (La-bac only)

FRONT RIGGING:[1,3] ☐ omit footrests
☐ standard swing away footrests (60°)
☐ elevating legrests ☐ reverse footplates
☐ 90°/90° (Max MFX = _____)
☐ offset bracket for calf pad

HEADREST (from recliner company):
☐ standard ☐ omit headrest

TRUNK SUPPORTS (from recliner company):
catalog #: ______________________
size: ______________________
hardware: ______________________

RECLINER CONTROL:
☐ toggle (std)
☐ other: ______________________
location: ______________________
☐ recline interface for single switch (from recliner company)

☐ ACTIVE ANTI-TIPPERS (LaBac only)

ADDITIONAL ELECTRONICS

☐ ALARM WITH LIGHT & SWITCH (Dufco)
Switch type: ______________________
Location: ______________________
Hardware: ______________________

☐ Recline interface for single switch: ______________ (company)

☐ OTHER: ______________________

---

1. When power wheelchair and power recliner are purchased from the same company, indicate information for "armrest type" and "front rigging" in POWER WHEELCHAIR section only.
2. Order armrests from the recliner company for tilt-in-space and power base systems.
3. Omit front rigging from w/c if ordering a power base or tilt-in-space recline & order front rigging from recliner company.
4. With LaBac the useable seat depth is 1" less than the actual pan depth that you ordered. You can order a pan that is 1" longer than the recliner frame.
5. On power base or tilt-in-space available width is approximately 1" wider than frame width that your ordered.
6. Order KILL/MODE switch in "VENDOR" section of order form.

RANCHO LOS AMIGOS MEDICAL CENTER Page 2 of 2

HIGH TECH POWER WHEELCHAIR SPECIFICATION FORM

PATIENT NAME: ______________________ **DATE:** ____________

PHYSICAL THERAPIST: ______________________ **VENDOR:** ____________

OTTO BOCK[7]

[] HEADREST:
  [] PAD:
    [] combination head/neckrest
    [] neckrest: [] small [] large
    Catalog #: ____________
  [] HARDWARE:
    [] single axis [] multi axis
    [] straight [] offset
    Catalog #: ____________
[] ARM TROUGHS:
  [] channel armrest (one piece)
    Catalog #: ____________
  [] modular:
    [] forearm pad
    Catalog #: ____________
    [] hand pad
    type: ____________
    Catalog #: ____________

  [] elevating/swivel unit
    [] left [] right
    [] trough offset bracket
    Catalog #: ____________

VENDOR: ____________

W/C BATTERIES:
  [] two group 22 lead acid batteries
  [] two group 22 gel batteries
  [] two group 24 lead acid batteries
  [] two group 24 gel batteries

[] VELCRO CHEST STRAP: ____________ (company)
[] AUTO BUCKLE HIP BELT: ____________ (company)
[] LATERAL KNEE PADS
[] O_2 TANK HOLDER

SIP AND PUFF ACCESSORIES
[] sip and puff straws (Therafin disposable)
[] saliva trap

[] WRIST STRAPS [] left [] right
  []with sheepskin [] without sheepskin

[] MODE SWITCH/KILL SWITCH
  [] type: ____________
  location: ____________
  ____

FREEDOM DESIGNS[7]

[] HEADREST:
  type: ____________
  Catalog #: ____________

[] ARM TROUGHS

[] SEAT BELT: [] small [] medium [] large
  Catalog #: ____________
  position: ____________

[] SHOE HOLDERS: size: ____________

[] LATERAL HIP/THIGH STABILIZERS
  size: width___" xlength___" xthickness___"

COLOR UPHOLSTERY: ____________

FOR VENTILATOR USERS

TYPE OF VENTILATOR: ____________

[] LA-BAC VENT. TRAY: [] pull out [] gimble

[] one M24 Gel cell battery and charger for the ventilator
[] one 12V Plug charger plug adapter
[] one 12V battery cable extension (Anderson Plug)
[] extended cable for motor to battery connector

CUSTOM MODIFICATIONS:
[] vent tray customizing
[] cascade bracket
[] cable wrap

NOTE: Coordinate with respiratory therapy to determine what type of ventilator the user will be discharged home with.

OTHER: ____________ (company)[7]

[] HEADREST:
  type/size: ____________
  hardware: ____________
  Catalog #: ____________

[] ARM TROUGHS:
  type/size: ____________
  Catalog #: ____________

[] TRUNK SUPPORTS:
  type/size: ____________
  hardware: ____________
  Catalog #: ____________

[] OTHER: ____________

COMMENTS/ OTHER

---

[7] Provide catalog numbers.

EBH
HighTech.SCL
2/94

RANCHO LOS AMIGOS MEDICAL CENTER
PHYSICAL THERAPY DEPARTMENT

WHEELCHAIR REQUISITION FORM

Date: ____________ Time: ____________ **RLAMC#**: ____________

Patient Name: ____________________ Unit: ________ Room #: ______

Contact Person: ______________________________

Contact Location/Extension *(check one)*:
☐ JPI/1 x6237
☐ JPI/2 x6239
☐ JPI/3 x6244
☐ 900 Room 82/83 x7095

1. **SPECIFY TYPE OF WHEELCHAIR:** ☐ POWER ☐ MANUAL

2. **SPECIFY WHEELCHAIR WIDTH:**
   ☐ NARROW ADULT
   ☐ STANDARD ADULT
   ☐ OTHER *(please specify below)*:

   ____

   ____

3. **SPECIFY WHEELCHAIR HEIGHT:**
   ☐ HEMI
   ☐ STANDARD
   ☐ OTHER *(please specify below)*:

   ____

   ____

4. **SPECIFY WHEELCHAIR POSITION:** ☐ UPRIGHT ☐ RECLINER

5. **SPECIFY REQUESTED ACCESSORIES** *(please check all that apply)*:

   ☐ DETACHABLE ARMRESTS ☐ SWING-AWAY FOOTRESTS
   ☐ ELEVATING LEGRESTS ☐ HEADREST EXTENSION
   ☐ OTHER *(please specify)*: ______________________

   ____

** **NOTE:** Please **circle** the specifications above which are **non-negotiable**. If nothing is circled, and the specific chair requested is not available, then you will receive a "next best type of chair" (i.e. a chair with non-detachable armrests, or a recliner instead of an upright chair).

- -

Work Order Log # ____________ (Office Use Only)

[illegible] Revised 5/97 [illegible]

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Instrument: Wheelchair Evaluation and Justification Form

Author(s): Mala Aaronson

Reviewer: Carol Sheredos

Format of Instrument

Instrument is paper; it is basically a "fill-in-the-blank" form, which lends itself to objective measurements/answers/information.

Domain(s) Functional/Performance and Quality of Life

Purpose

Author states that instrument is for wheelchair and seating or other DME; is currently being used as: 1.) Guide for an evaluation in a wheelchair clinic; 2.) Documentation in the medical record; 3.) Justification for a wheelchair for an insurance company.

Population

Appears useable for both adults and children with disabilities and/or deformities.

Setting of Administration

Center-based, home, outpatient or inpatient -- versatile.

Materials and Tools Required

Tape measure, Goniometer, and Dynamometer would be helpful but not necessary. Pressure mapping optional.

Method

Must be administered by a CLINICIAN (PT, OT, MD, etc.). Standardized tests and objective measurements (ROM, strength, tone, posture, balance), as well as a summary of functional status, must be assessed and documented by a qualified clinician to be valid. Tool is self-explanatory and guides the clinician toward appropriate selection and justification of wheelchair/DME.

Types of Data

a. Reporting: Reported by clinician (see above) - objective
b. Performance data of device (engineering) Probably subjective, if at all
c. User performance - Open -- not confined to any specific user; would be objective
d. Environmental Resources N/A

Cost

Does not determine, reflect, or suggest cost; but does allow for justification for payor's needs. Subjective AND objective information.

Sample Questions

Medical/Physical history/status; ROM and strength; posture; balance -- all objective.

Accommodations

Objective based on information given

Interpretation of Data (process)

Question "Advantages of this equipment" allows clinician to state how equipment will assist/benefit the client. Also, there is a type of summary at the end of the tool: clinician must name equipment being requested and then must-- from information on tool -- give medical justification.

Reported Reliability and Validity

Again -- MUST be completed by a clinician for information and assessment to be reliable; valid interpretation if utilized by qualified individual.

Advantages

1. Clear, concise form
2. "User-friendly"
3. Acts as a "guide" for person completing the tool and whoever is seeking to justify equipment/cost, etc. -- Walks the user through the evaluation and justification process.
4. Advantageous for both pediatric and adult evaluations. A type of universal form.
5. Constructed in a letter format, to include objective information as part of a letter of justification.

Disadvantages or Limitations

1. Should have diagram of a human form to help clarify problem areas, deformities, etc.
2. May not give enough room in certain areas for a complete answer (e.g., a short line for diagnosis may not be enough for a person with multiple diagnoses).
3. At end of form, asks for employer -- WHY?? (Perhaps "organization" or "facility" would be more appropriate.) Also, should ask for title of person completing form.
4. Long list for equipment and justification. Is this all necessary?
5. "Advantages of this equipment" should be AFTER equipment is specified.

Special Accommodations: Allows for such information under "medical justification"

Recommendations for Future Use

Include head problems -- VERY important for many clients! Tool is a good one -- would recommend for any wheelchair & seating clinic, recommendations for discharge equipment, etc. An excellent clinical tool!

CONTACT INFORMATION

Source:
Mala Aaronson
9 Fairway View, Norton, MA 02766
508 647 8100 w

Reviewer:
Carol A. Sheredos, MA, P.T.
Director of Rehabilitation
North Charles Healthcare Center
2700 North Charles St.
Baltimore, MD 21218
410 554 3910

RESPONSE TO REVIEW

I have incorporated additions to address all major points of my reviewer's feedback, as well as adding more detail and space to address the integration of accessories into the mobility system. Atlantic Rehab is now providing this form to the therapists we work with for use as a letter of justification for reimbursement sources. We have already received positive feedback from both the therapists and insurance companies regarding its ease of use and clarity. Please feel free to contact me with any questions.

Mala Aaronson, OTR/L CRTS

Date: ____________

To whom this may concern.

This letter is in support of my client ______________________ who is a ______ year old male/female, diagnosed with ______________________

Home Environment/Accessibility: ______________________

Self care/Provider status: ______________________

Daily Acts: (including transportation, vocation) ______________________

Medical/Physical status: ______________________

Cognitive/Perceptual status: ______________________

Hours Spent in Wheelchair: ______________________

ROM/Strength

Lower Extremity	Left		Right	
HIP	ROM	STRENGTH	ROM	STRENGTH
Flexion				
Extension				
Abduction				
Adduction				
Rotation				
KNEE				
Flexion				
Extension				
ANKLE				
Dorsiflexion				
Plantarflexion				

Note any abnormal muscle tone: ______________________

Upper Extremity	Left		Right	
SHOULDER	ROM	STRENGTH	ROM	STRENGTH
Flexion				
Extension				
Abduction				
Adduction				
Rotation				
ELBOW				
Flexion				
Extension				
WRIST				
Flexion				
Extension				
Pronation				
Supination				
GRASP	--		--	

SENSATION ______________________

Sitting Posture

PELVIS	L	R
Anterior Tilt		
Post Tilt		
Obliquity		
Rotation		
HIPS		
Abduction		
Adduction		
Windswept		
Dislocation		
Amputation		

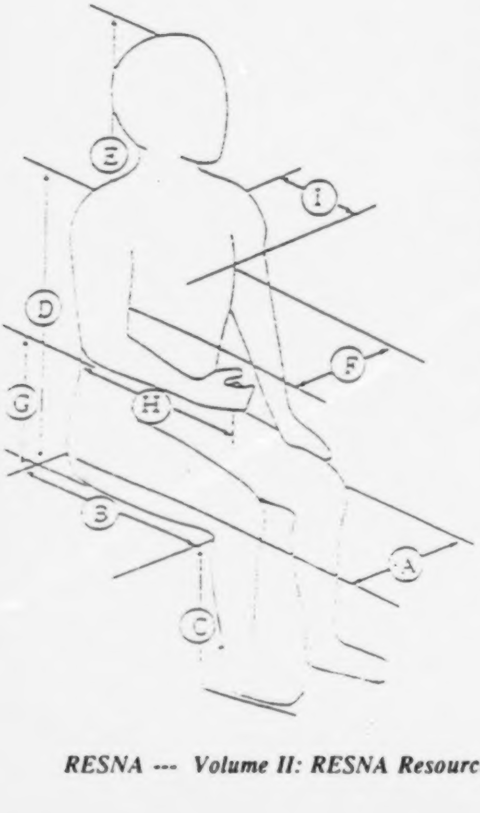
FEET	L	R
Dorsiflexion		
Plantarflexion		
Inversion/eversion		
TRUNK		
Scoliosis		
Kyphosis		
Rotation		
Lateral flexion		

Sitting Balance ____________

Head/Neck Position ____________

Head/Neck Control ____________

Comments ____________



Weight (lbs)	
A. Hip Width	
B. Knee to Back	
C. Knee to Heel	
D. Seat to Shoulder	
E. Seat to Top of Head	
F. Chest Width	
G. Elbow Height	
H. Elbow to Hand	
I. Trunk Depth	

Skin integrity (include history of skin problems): ____________________

Transfers (method level of independence): ____________________

Ability to perform pressure relief (include method): ____________________

Mobility status: ____________________

Current Equipment (age & condition): ____________________

Method of transporting mobility device/need for modification: ____________________

Other accessories to be integrated into mobility system (include type, size/measurements, and mounting location):

O² tank: ____________________

Computer: ____________________

Ventilator: ____________________

Access switches: ____________________

Communication system: ____________________

Other: ____________________

Equipment being requested:

Item	Medical Justification

Trial/Simulation (comment on other pieces of equipment ruled out):

Thank you for your assistance in obtaining this much needed piece of durable medical equipment.

Signature Title	Date	Phone

Revised 11/97
[illegible]

Instrument: Seating and Mobility Evaluation Form (SMEF)

Author(s): Delia Freney, OTR

Reviewer: Janice H. Herman

Format of Instrument: Six pages which require check off boxes, fill-in the word or phrase, and open lines for brief comment.

Domain(s)

Form addresses issues of client's physical performance, function, satisfaction, and quality of life related to their use of wheelchair seating and mobility devices.

Purpose

To record the findings from the seating assessment.

Population

Physically disabled wheelchair users

Setting of Administration

Any location where client can be transferred from the wheelchair and examined on a firm flat surface.

Materials and Tools Required

Firm flat surface such as a mat table on which for the client to recline and sit. Goniometer. Tape measure. Pen/pencil. Camera (optional). Seating simulator (optional)

Method

Form is used to quickly jot down the findings as the assessor proceeds through the assessment, particularly the hands-on physical/mat examination of the client. Specific sections invite the assessor to list problems, simulation trials, goals, and recommendations. The language and abbreviations assume the assessor is a physical or occupational therapist or otherwise knowledgeable and skilled in the assessment techniques, standardized therapeutic grades and classifications for physical dysfunction, and their medical and seating implications.

Types of Data

a. Reporting: Assessor obtains subjective information via interview and observation, and objective data by performing standardized clinical tests and non-standardized seating-specific tests.

b. Performance data of device - has not been tested.

c. User performance- Form addresses a client population with a variety of physical impairments, such as, spasticity, paralysis, dyscoordination, or boney malformation, which make them unable to ambulate (disabled) and reliant on a wheelchair for home and community mobility.

d. Environmental Resources: Data is obtained from physical examination and measuring of the client's body during different activities.

Cost to Implement Minimal cost for paper copies.

Sample Questions:

Samples of completed questions are not provided and not necessary. See instrument.

Accommodations

Form will accommodate a wide variety of client disabilities and diagnoses.

Interpretation of Data (process)

The data can easily be retrieved for review, analysis, and interpretation, simply by reading the completed form. The reader would need to have a good understanding of the seating assessment purpose and process in order to meaningfully interpret the information. Some sections require a clinical background to fully interpret, but there are sufficient straight forward lists of problems and goals for other team members, such as the funding source, to independently read and interpret the completed form.

Reported Reliability and Validity

The form has not been tested for reliability or validity but from clinical experience, it appears to gather reliable information when completed by a qualified (knowledgeable and skilled) professional.

Cost: $37.50 plus shipping ($2.50)

Sample Questions

"Sitting posture in wheelchair: (check if deviation is fixed or flexible) ___ posterior pelvic tilt, ___anterior pelvic tilt, ___ pelvic obliquity low on R/L, ___pelvic rotation anterior towards R/L, ___kyphosis, ___lordosis, ___scoliosis convex R/L, ___forward head, ___leg abduction, ___leg adduction, ___wind sweeping R/L, ___other"

Advantages

This is an excellent and comprehensive tool with sufficient flexibility to serve multidisciplinary teams addressing complex client needs, as well as, sole practitioners recommending minor adjustments.

- Comprehensive instrument; includes the issues pertinent to most seating assessments, as well as the items addressed in the letter of medical necessity or the justification letter.
- Well organized, attractive, and easy to complete while doing a hands-on examination of the client.
- Adaptable and allows for personalized comments by providing plenty of free writing space.
- Scanning the form cues the reader to prevent omissions during the assessment process.
- Easy to reproduce copies, and to file in client's records.
- Includes sections identifying team members involved, specific responsibilities for follow-up on action items, and dated tracking of the implementation process.
- Copy of the form includes a signature line so it can be directly included in the medical record and/or distributed in lieu of a written report of the assessment.

Disadvantages or Limitations

- Tends to simplify postural deviations and other issues into yes/no responses. For example, If the new device causes a deviation to be reduced, but not eliminated, the outcome findings may not reflect this as a positive accomplishment because the answer is still "yes, there is deviation".

- Equipment recommendations section presents blank lines rather than detailed suggestions, leaving room for omission of details or interpretation of the exact specifications of the prescription of the desired device.

Recommendations for Future Use

This form offers a user friendly way to put all the assessment issues into a tidy package. It proceeds in a logical and realistic path, building a record of the problem solving process and resolutions chosen. Although this lends itself to a well documented case record, it may not lend itself to demonstrating outcomes. It does not focus on specific, measurable, and objective parameters that can be used to compare the "before" and "after". This form, like many assessment forms, allows the assessor to use vague subjective descriptors rather than specific, defined, and measurable terms. Although it is sometimes difficult to quantify some issues, such as the amount of lateral lean, it would be useful if assessment forms like this one encouraged the assessor to measure the actual angle of lean in order to quantify the improvement in upright sitting. Although this detail may not be necessary to justify the purchase of this device for this particular individual, scientific research studies using a larger population will demand these more objective measures.

CONTACT INFORMATION

Source

Team Seating
19356 Darcrest Court
Castro Valley, CA 95464

Reviewer:

Janice Hunt Herman, MS PT
Neurobiology Institute
11999 N. 114 Way
Scottsdale, AZ 85259
602 657 8677 Email: NeuroBio@AOL.com

SEATING & MOBILITY EVALUATION FORM

The Seating & Mobility Evaluation Form was created by a therapist as a tool to perform seating and mobility evaluations in a consistent and efficient manner. It is designed to gather appropriate information about the client and document the goals, medical necessity and justification of the recommended equipment. This form assists professionals with emphasis on a team approach. The intent is to use the form to guide the team through the process with documentation that will be clear and concise for funding agencies.

This SMEF has been presented to medical directors of several major funding sources with overwhelming approval. When signed by a therapist, it has been accepted as a valid therapy evaluation report.

This SMEF has also been reviewed by medical professionals throughout the country and has applications in a variety of facilities. Its application to a wide range of diagnoses in populations from pediatrics to geriatrics makes this a valuable form that can be utilized by any team member doing seating and mobility evaluations.

The *Standardization of Terminology and Descriptive Methods for Specialized Seating* by RESNA Press was used for reference in preparing this form.

SEATING & MOBILITY EVALUATION FORM

Client ____________________ Date of Eval ____________________

Therapist ____________________ Date of Birth ____________________

Physician ____________________ Diagnosis ____________________

Medical Record No. ____________ Facility ____________ Family ______ Residential ______

EVALUATION FOR (check all that apply)

☐ New ☐ Growth and/or modifications

☐ Seating ☐ Manual Chair ☐ Power Chair ☐ Switch Access to Power Chair

DESCRIBE EXISTING SEATING & MOBILITY SYSTEM

Wheelchair frame type (recline, tilt, etc.) ____________________

Width ________ Depth ________ Approx. age of wc ________ Serial No. ________

Seat cushion (width & depth) and accessories ____________________

____

Back rest (width & height) and accessories ____________________

Head and neck supports ____________________

Shoulder and arm supports ____________________

Trunk supports ____________________

Pelvic and thigh supports ____________________

Lower leg and foot supports ____________________

☐ Orthosis used in seating system. i.e. TLSO, HKAFO, RGO, AFO

Communication device ____________________

Mounted: ☐ Frame ☐ Tray ☐ Interchangeable between manual and power chairs

SITTING POSTURE IN WHEELCHAIR

(Check deviations and document with frontal and lateral photographs if possible)

☐ Anterior pelvic tilt

☐ Posterior pelvic tilt

☐ Pelvic Obliquity lower side on:

______R ______L

☐ Pelvic rotation anterior towards:

______R ______L

☐ Kyphosis

☐ Lordosis

☐ Scoliosis convex to:

______R ______L

☐ Forward head and/or neck hyperextension

☐ Hip abduction

☐ Hip adduction

☐ Wind sweeping to ______R ______L

☐ Other ____________________

____

____

CLIENT FUNCTION

Type of transfer ____________________ Seat height from floor needed ____________________

Amount of assistance needed on a variety of surface levels:

Chair to bed __________ Chair to chair __________ Chair to floor __________ Chair to toilet __________

Describe activities of daily living and requirements for seating/positioning/mobility considerations:

Feeding ____________________

Dressing ____________________

Grooming ____________________

Toileting ____________________

Other ____________________

Wheelchair propulsion: ☐ Self ☐ Manual ☐ Power ☐ Attendant

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SITTING EVALUATION

Sitting Balance

☐ Good/lift hands and shifts weight ☐ Fair/lifts hands but unable to weight shift

☐ Poor/props with hand support ☐ Dependent/needs external support

Sitting Posture on Mat Table

Sitting Posture on Mat Table	Fixed	Flexible	Comments
☐ Anterior pelvic tilt	______	______	______
☐ Posterior pelvic tilt	______	______	______
☐ Pelvic obliquity lower side on:	______	______	______
______ R ______ L	______	______	______
☐ Pelvic rotation anterior towards:			______
______ R ______ L	______	______	______
☐ Kyphosis	______	______	______
☐ Lordosis	______	______	______
☐ Scoliosis convex to:			______
______ R ______ L	______	______	______
☐ Forward head	______	______	______
☐ Hyperextension	______	______	______
☐ Hip abduction	______	______	______
☐ Hip adduction	______	______	______
☐ Wind sweeping to ______ R ______ L	______	______	______

☐ Other Describe: ______

______

______

Tonal Influences/Reflexes in Sitting

☐ Extensor ☐ Flexor ☐ ATNR ☐ STNR ☐ Positive Support ☐ Ankle clonus

Seating Considerations in Handling the Client

Hip flexion angle: ☐ 90° ☐ More ☐ Less ☐ Fixed ☐ Adjustable

Client's orientation in space:

☐ Upright ☐ Incline ☐ Tilt Anterior ______ Posterior ______

Evaluate pelvic control required and describe: ______

Evaluate trunk support required and describe: ______

In what plane: ☐ Lateral ☐ Frontal

Evaluate head and neck control required and describe: ______

☐ Flexion/Extension ☐ Rotation

Evaluate foot support required and describe: ______

☐ Angle adjustable

Comments: ______

______

______

______

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SUPINE EXAMINATION

Supine on Mat Table	Fixed	Flexible	Comments
☐ Anterior pelvic tilt	______	______	______________________________
☐ Posterior pelvic tilt	______	______	______________________________
☐ Pelvic obliquity lower side on:	______	______	______________________________
________ R ________ L	______	______	______________________________
☐ Pelvic rotation anterior towards:			______________________________
________ R ________ L	______	______	______________________________
☐ Kyphosis	______	______	______________________________
☐ Lordosis	______	______	______________________________
☐ Scoliosis	______	______	______________________________

Supine Range of Motion	R	L	
Hip Flexion (Norm = 0° - 125°)	______	______	Windsweeping to ________ R ________ L
Hip Abduction/adduction	______	______	
Knee Extension w/hip at 90°	______	______	Feet Limitations ________ R ________ L

Note range limitations:

Describe ____

____

____

Skin Condition

Describe areas of concern:

☐ Ischial tuberosities ☐ Bilateral ☐ Right ☐ Left

☐ Coccyx ☐ Spine Location ________________________________

☐ G.I. Tube ☐ Tracheostomy

Other ____

____

Future Considerations i.e. Surgeries, progression of disease and indications:

____

____

____

Environmental Considerations

Home ____

School ____

Community ____

Recreation ____

Work ____

Transportation ____

Explain how seating/mobility device will be transported ________________________

Vehicles ____

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Portion below to be filled out during team evaluation process

Team Members Present at the Evaluation

☐ Client ☐ Parent/Caregiver ☐ Lead therapist ☐ PT ☐ OT
☐ Referring therapist ☐ RTS/ATP ☐ Aide ☐ Teacher
☐ Other ______________________________

Problems with Present Seating/Mobility System

1. ______________________________
2. ______________________________
3. ______________________________
4. ______________________________
5. ______________________________
6. ______________________________
7. ______________________________
8. ______________________________
9. ______________________________
10. ______________________________

Goal Setting

Determination of goals:

☐ Improve posture and alignment
☐ Provide pressure relief
☐ Accommodate and/or minimize deformites
☐ Relieve pain/increase sitting tolerance
☐ Improve head position/visual field
☐ Reduce tonal influences
☐ Improve functional level
☐ Accommodate joint limitations
☐ Allow for growth/weight gain
☐ Provide mobility
☐ Meet caregiver goals, identify: ______________________________

Other: ______________________________

Historical Overview of Seating/Mobility Device

Solutions tried in the past? ______________________________

Successes in the past and why? ______________________________

Failures in the past and why? ______________________________

Results ______________________________

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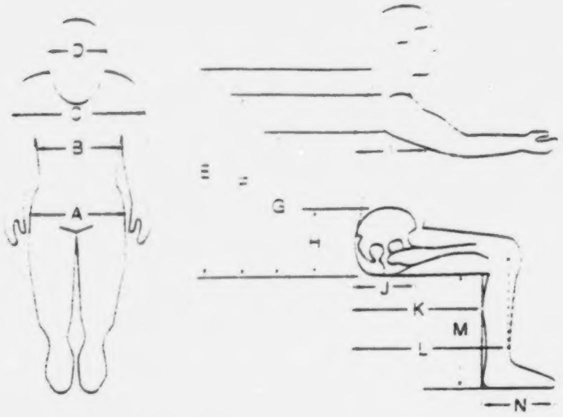

Client's Measurements

A __________
pelvic width

B __________
chest width

C __________
shoulder width

D __________
head width

E __________
seat to occiput

F __________
seat to shldr ht.

G __________
seat to axilla

H __________
seat to PSIS

I __________
trunk depth

J __________
back to anterior
of IT

K __________
seat depth

L __________
back to lateral
condyl of knee

M __________
seat to foot

N __________
foot length

Simulation and Results: __________

Document with frontal and lateral photographs, the simulation of recommended seating/wheelchair

Solutions and Recommendations

Seating

1. __________
2. __________
3. __________
4. __________
5. __________

Mobility Base ☐ Attendant pushed ☐ Self propelled ☐ Power ☐ Combo

1. __________
2. __________
3. __________
4. __________
5. __________

Additional support equipment needed i.e. ventilator __________

Method of Implementation and Person Taking Action

1. __________
2. __________
3. __________
4. __________
5. __________

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6. ______________________________

7. ______________________________

8. ______________________________

9. ______________________________

10. ______________________________

Follow Up

Date delivered: ______________

Issues for further action: ______________________________

Date completed: ______________

Follow-up date for review if necessary: ______________

☐ Review and sign **RECOMMENDED USER GUIDELINES**

☐ **WHEELCHAIR PACKET** given to client/family/caregiver

Tracking

Date	Summary

Completed and Reviewed by: ______________________ ______________

Signature & Title Date

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SEATING & MOBILITY EVALUATION FORM

The Seating & Mobility Evaluation Form was created by a therapist as a tool to perform seating and mobility evaluations in a consistent and efficient manner. It is designed to gather appropriate information about the client and document the goals, medical necessity and justification of the recommended equipment. This form assists professionals with emphasis on a team approach. The intent is to use the form to guide the team through the process with documentation that will be clear and concise for funding agencies.

This SMEF has been presented to medical directors of several major funding sources with overwhelming approval. When signed by a therapist, it has been accepted as a valid therapy evaluation report.

This SMEF has also been reviewed by medical professionals throughout the country and has applications in a variety of facilities. Its application to a wide range of diagnoses in populations from pediatrics to geriatrics makes this a valuable form that can be utilized by any team member doing seating and mobility evaluations.

The *Standardization of Terminology and Descriptive Methods for Specialized Seating* by RESNA Press was used for reference in preparing this form.

ORDER FORM

Ship to:

Name ______________________________

Title ______________________________

Company ______________________________

Address (No P.O. Boxes) ______________________________

____

City ______________ State ________ Zip ________

Daytime Phone Number ______________________________

Each **SEATING & MOBILITY EVALUATION FORM** packet contains 25 forms.

Each packet sells for $37.50
(sales tax included)

Shipping/handling: $2.50 per packet
2nd day Air add: $12.50 per packet

Qty. Total price ________ @ $37.50 = ____________

Shipping/handling ______________________

2nd day Air ______________________

Total Payment Enclosed ______________

Check or Money Order in U.S. Funds only

Please make checks to: TEAM SEATING
Mail to:
19356 Darcrest Court
Castro Valley, California 95464
For more information please call: 510/581-2904

Instrument: **Client Seating Assessment** (adapted Jay form)

Submitter: Mary Jo Wagner, BS, OT

Reviewer: Janice H Herman, MS PT

Format of Instrument

Two sided paper which requires check off boxes and simple phrases to complete.

Domain(s)

Form addresses issues of physical performance, and function during the physical evaluation for wheelchair seating.

Purpose

To record the findings from the interview as well as physical/mat examination of the seating assessment. This particular form is Jay's standard form with MaryJo's item's added to it. This advantages of adapting a commercial form are obvious.

Population: Physically disabled wheelchair users

Setting of Administration

Any location where client can be transferred from the wheelchair and examined on a firm flat surface.

Materials and Tools Required

Firm flat surface such as a mat table on which for the client to recline and sit. Goniometer. Tape measure. Pen/pencil. Camera (optional)

Method

Form is used to quickly jot down your findings as you proceed through the assessment, particularly the hands-on physical/mat examination of the client. The language assumes the assessor is a physical or occupational therapist or otherwise knowledgeable and skilled in the assessment techniques, standardized therapeutic grades and classifications for physical dysfunction, and their medical and seating implications.

Types of Data

a. Reporting: Assessor obtains subjective information via interview and observation, and objective data by performing standardized clinical tests and non-standardized seating-specific tests.

b. Performance data of device (engineering) N/A

c. User performance: Client population has a variety of physical impairments, such as, spasticity, paralysis, dyscoordination, or boney malformation, which makes them unable to ambulate (disability) and reliant on a wheelchair for home and community mobility.

d. Environmental Resources: Data is obtained from physical examination of the client's body during different activities.

Sample Questions

Sitting posture in wheelchair: (check the deviations) ___ posterior pelvic tilt, ___anterior pelvic tilt, ___ pelvic obliquity, ___pelvic rotation, ___kyphosis, ___lordosis, ___scoliosis, ___forward head, ___leg abduction, ___leg adduction, ___wind sweeping, ___other

Accommodations

Form will accommodate a wide variety of client disabilities and diagnoses.

Interpretation of Data (process)

Form does not address the interpretation of the findings, analysis of data, or using this information to define the problems/solutions.

Reported Reliability and Validity

The form has not been tested for reliability or validity but from clinical experience, it appears to gather reliable information when completed by a qualified (knowledgeable and skilled) professional.

Cost Minimal cost for paper copies. Free; Part of the handout packet for their seminar on how-to do a seating assessment.

Advantages

Brief and easy to complete while doing a hands-on examination of the client. Cues the reader to prevent omission of basic pertinent data.
Easy to reproduce copies, and to file in client's records.

Disadvantages or Limitations

Does not include some issues, such as transportation of the wheelchair, geographical access within the home or job setting, need to integrate multiple device with the wheelchair system, etc, which may be critical aspects of the assessment.

Tends to simplify postural deviations and other issues into yes/no responses. For example, If the deviation is reduce, but not eliminated, the outcome findings may not reflect this as a positive accomplishment because the answer is still "yes, there is deviation".

May be difficult for other members of the seating team to interpret the data, in other words, they may wonder "So what does that mean in terms of the approach we take?"

A relatively large section is devoted to skin condition reflecting the marketing bias of the company to sell cushions.

Special Accommodations N/A

Recommendations for Future Use

Its simplicity makes it a good tool for beginners to the seating team, but experienced assessors may find it limiting and too brief in some sections.

CONTACT INFORMATION

Source:
Mary Jo Wagner, OTR/L
PO Box A, Hathorne, MA 01937
508 774 5000, x 294
or Jay/Sunrise Medical, Boulder, CO 80308
1 800 648 8282

Reviewer:
Janice Hunt Herman, MS PT
Neurobiology Institute
11999 N. 114 Way
Scottsdale, AZ 85259
602 657 8677 Email: NeuroBio@AOL.com

RESPONSE to REVIEW

Thanks for the review of the wheelchair assessment form that I use. I have made some recent changes: Section 2 revised body measurements, and minor changes to the last section. I use the last section to list postural deviations and the plan to correct, accommodate and support.

Most of the people that we see live in this facility or in a group home in our region. Living environments and transportation tend to be somewhat standardized. When someone come in with their family or alone, I do find myself needing to ask questions not listed on the assessment.

Basically I am the only one who uses and read the form. With the team the wheelchair prescription is developed and I note it on the form. I write the letter of justification and process the order with the dealer.

Once or twice I have submitted this form along with the letter of medical necessity/justification to the Medical Assistance Program for prior approval.

Mary Jo Wagner, BS, OT

MassHealth ____
Medicaid ____
Medicare ____
Other ____

Client Seating Assessment

1 Client Information

TeamMembers/#
____
____
____

Therapist ____ Date ____
Client name ____ Phone ____
Address ____ Day Program ____
Disability ____
Age ____ Sex ____ Onset of disability ____ Wgt. ____
Cognitive status (list any medications) ____
Visual/auditory status ____
Past medical / surgical history ____

2 Wheelchair Evaluation

Hip Width ____
Knee Width ____
Seat Depth l__r__
Calf Length l__r__
Foot Length ____
Elbow Height ____
Chest Width ____
Chest Depth ____
Shldr Width ____
Axilla Height ____
Shldr Height ____
Occip Height ____

Describe existing seating or attach instant photograph to fitting form Serial# ____
Wheelchair frame type (recline, tilt, etc.) and width ____
Seat cushion (width and length) and accessories ____
Back cushion (height) and accessories ____
Head rest / support ____ Arm positioning ____
Foot positioning ____ Belts/harness ____

Sitting posture in wheelchair (check deviations and document with instant photograph)

- ___ Posterior pelvic tilt
- ___ Anterior pelvic tilt
- ___ Pelvic obliquity
  - ☐ right ☐ left
- ___ Pelvic rotation protracted forward to:
  - ☐ right ☐ left
- ___ Kyphosis
- ___ Lordosis
- ___ Scoliosis convex to:
  - ☐ right ☐ left
- ___ Forward head/neck hyperextension
- ___ Leg abduction
- ___ Leg adduction
- ___ Wind sweeping
- ___ Other ____

____
____
____

W/C Accessories
Locks: Push/Pull

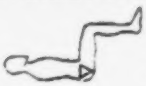
3 Function

Type of transfer ____ Continence:
Amount of assist needed ____
Wheelchair propulsion ____
Activities of daily living ____

4 Skin Condition

Location	Old Scarring	Redness	Size	Time before redness disappears	Open sore grade 2	3	4	Shape/color
Ischial tuberosities	____	____	____	____	☐	☐	☐	____
Coccyx	____	____	____	____	☐	☐	☐	____
Spine	____	____	____	____	☐	☐	☐	____
Other	____	____	____	____	☐	☐	☐	____

5 Supine Evaluation



Supine posture on mat table

	Fixed	Flexible
___ Pelvic tilt		
☐ anterior	____	____
☐ posterior	____	____
___ Pelvic obliquity	____	____
___ Pelvic rotation	____	____
___ Kyphosis	____	____
___ Lordosis	____	____
___ Scoliosis	____	____

Comments ____
____
____
____
____
____

Supine range of motion
Hip flexion (norm = 0° - 125°) ____
Knee extension with hip at 90° ____
Other

Seating considerations
Recline back or leg trough if less than 90°
Foot rest placement
____ ____

6 Sitting Evaluation

Sitting balance

___ Good / Hands-free with ability to weight shift
___ Fair / Hands-free only
___ Poor / Propped with hand support
___ Dependent / Needs external support

Comments ____________
____
____

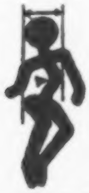
Sitting posture on mat table	Fixed	Flexible	Discrepancy: 1"	2"	3"
___ POSTERIOR PELVIC TILT	___	___	___	___	___
___ Leg adduction	___	___			
___ Kyphosis	___	___			
___ Forward head/neck hyperextension	___	___			
___ ANTERIOR PELVIC TILT	___	___	___	___	___
___ Leg abduction	___	___			
___ Lordosis	___	___			
___ PELVIC OBLIQUITY ☐ right ☐ left	___	___	___	___	___
___ Scoliosis convex to: ☐ right ☐ left	___	___			
___ PELVIC ROTATION protracted forward to: ☐ right ☐ left	___	___	___	___	___
___ Wind sweeping	___	___			
___ Other ____________	___	___			
___ Other ____________	___	___			

Tonal influences/ reflexes in sitting	**Seating implications**
___ Extensor ___ Flexor	Ensure proper seat-to-back angle and positioning belt placement
___ ATNR	Inhibit head rotation with head support
___ STNR	Inhibit neck flexion/extension with head support, maximize verticality
___ Positive support ___ Ankle clonus	Foot rest angle ≥ 90°, and total foot support/positioning straps
___ Other	____________

Sitting length measurements

Hip width ______
Overall body width ______
Leg length (from sacrum to popliteal fossa):
right ______
left ______

Overall body width



Comments ____________________________
____

Problems/Needs: ____________ **Solutions:** ____________
____
____
____
____
____

Trial: ____________________________
____

Plan:
W/C Make/Model: ____________ Size: ________ Foldable: ______
Wheels: ____________ Seat: ____________
Casters: ____________ Back: ____________
Frt.Rigg: ____________ Seat Belt: ____________
Feet: ____________ Headrest: ____________
Anti-tip: ____________ ArmStyle: ____________
______: ____________ Tray: ____________
______: ____________ ______: ____________
____
____
____

Client Seating Assessment

1 Client Information

Client name ______________________ Date __________

Address ______________________ Phone __________

Disability ______________________

Age ______ Sex ______ Onset of disability ______________________

Cognitive status (list any medications) ______________________

Visual/auditory status ______________________

Past medical/surgical history ______________________

Therapist ______________________

2 Wheelchair Evaluation

Describe existing seating and attach photograph to fitting form.

Wheelchair frame type (recline, tilt, etc.) and width ______________________

Seat support and cushion (width and length) and accessories ______________________

Back support (height) and accessories ______________________

Head rest / support ______________ Arm support ______________

Foot support ______________ Belts, harness ______________

Sitting posture in wheelchair (check deviations and document with photograph)

- ___ Posterior pelvic tilt
- ___ Anterior pelvic tilt
- ___ Pelvic obliquity
  - ☐ left ☐ right
- ___ Pelvic rotation protracted forward to:
  - ☐ left ☐ right
- ___ Kyphosis
- ___ Lordosis
- ___ Scoliosis convex to
  - ☐ left ☐ right
- ___ Forward head/neck hyperextension
- ___ Leg abduction
- ___ Leg adduction
- ___ Wind sweeping
- ___ Other ______________

____

____

____

3 Function

Type of transfer ______________ Amount of assist needed ______________

Wheelchair propulsion ______________________

Activities of daily living ______________________

4 Skin Condition

Location	Old Scarring	Redness	Size	Time before redness disappears	Open sore grade 2	3	4	Shape/color
Ischial tuberosities	____	____	______	______	☐	☐	☐	__________
Coccyx	____	____	______	______	☐	☐	☐	__________
Spine	____	____	______	______	☐	☐	☐	__________
Other	____	____	______	______	☐	☐	☐	__________

5 Supine Evaluation

Supine posture on mat table	Fixed	Flexible	Comments
___ Pelvic tilt: ☐ anterior ☐ posterior	_____	_____	______________
___ Pelvic obliquity: ☐ Left ☐ Right	_____	_____	______________
___ Pelvic rotation: ☐ Left ☐ Right	_____	_____	______________
___ Kyphosis	_____	_____	______________
___ Lordosis	_____	_____	______________
___ Scoliosis	_____	_____	______________

Supine range of motion

Hip flexion (norm = 0°–125°) __________

Knee extension with hip at 90° __________

Seating considerations

Recline back or leg trough if less than 90°

Foot rest placement

Other ______________________

Client Seating Assessment

6 Sitting Evaluation

Sitting balance

___ Good: Hands-free with ability to weight shift
___ Fair: Hands-free only
___ Poor: Propped with hand support
___ Dependent: Needs external support

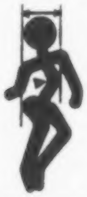
Comments ______________________

____

Sitting posture on mat table

	Fixed	Flexible	Discrepancy		
___ POSTERIOR PELVIC TILT	___	___	___	___	___
___ Leg adduction	___	___			
___ Kyphosis	___	___	___		
___ Forward head/neck hyperextension	___	___			
___ ANTERIOR PELVIC TILT	___	___	___	___	___
___ Leg abduction	___	___			
___ Lordosis	___	___	___		
___ PELVIC OBLIQUITY ☐ left ☐ right	___	___	___	___	
___ Scoliosis convex to: ☐ left ☐ right	___	___			
___ PELVIC ROTATION					
protracted forward to: ☐ left ☐ right	___	___	___	___	___
___ Wind sweeping ☐ left ☐ right	___	___			
___ Other ______________	___	___			
___ Other ______________	___	___			

Overall body width



Tonal influences, reflexes in sitting	**Seating implications**
___ Extensor ___ Flexor	Ensure proper seat-to-back angle and positioning belt placement
___ ATNR	Inhibit head rotation with head support
___ STNR	Inhibit neck flexion/extension with head support, maximize verticality
___ Positive support ___ Ankle clonus	Foot rest angle ≥ 90°, and total foot support/positioning straps
___ Other	______________________

Sitting length measurements

Hip width ______
Overall body width ______
Leg length (from sacrum to popliteal fossa)
Left ______
Right ______

Comments ______________________________

____

7 Skin Condition

Re-evaluate Skin Condition

Changes Noted: ______________________________

8 Goal Setting

Determination of goals

☐ Improve posture ______________________
☐ Pressure relief ______________________
☐ Accommodate deformity ______________________
☐ Accommodate joint limitations ______________________
☐ Relieve pain/increase sitting tolerance ______________________
☐ Control tonal influences ______________________
☐ Improve functional level ______________________
☐ Improve head position/visual field ______________________
☐ Allow for growth/weight gain ______________________
☐ Improve appearance ______________________
☐ Meet caregiver goals ______________________
☐ Meet transportation/vocational/school needs ______________________
☐ Other ______________________

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Instrument: **The Rehabilitation Center Wheelchair/Seating & Physical Assessment Worksheet**

Author(s): Submitted by: Rebecca Taggart, S/LP.

Reviewer: Kim Davis, MSPT, Center for Rehabilitation Technology

Format of Instrument

Pen and paper. Open-ended questions, outline format, except fill in the blank for anatomical measurements with body chart reference.

Domain(s): Functional / Performance

Purpose: To collect data needed for wheelchair/seating evaluation.

Population

People with mobility impairments requiring wheeled mobility and/or specialized seating, all diagnoses, all ages from infant to geriatric. Center services rural area. Thus members of s/wm team often act as screeners for referral to additional services. Professional population = seating and wheeled mobility assessment team - primarily therapist (PT/OT) and engineer or rehabilitation technologist, as noted by the author. In general, all sections of instrument appear to be most pertinent for therapist to fill out. Specific portions are then extracted by engineer.

Setting of Administration

Since it is a paper and pen instrument, you could take it to any setting where a seating/wm eval could be performed. Per author, setting is ~95% of the time, center-based.

Materials and Tools Required

Pen. Tape measure. Goniometer. Although the instrument does not indicate whether/when a supine versus sitting assessment is performed, discussion with the author revealed that the assessment generally includes the following: sitting in current system, supine on mat, sitting edge of mat and/or sitting in flamingo simulator.

Method

Per author, this is a non-standardized form. The primary PT for the seating team has been utilizing this instrument, with minor modifications, for >5yrs. The most recent modification of the instrument is the addition of the first page, for anatomical measurements. This is generally a follow-the-outline, fill-in-the-blank method of administration. There are minimal instructions to guide one through the instrument. In general this open-ended format has the potential for a more traditional comprehensive physical therapy assessment versus limiting intake of information solely to what is pertinent to the "seated" individual.

Types of Data

a. Reporting (Self reported, reported by others)

Instrument contains both subjective interview questions as well as objective measurement/observation sections.

b. Performance data of device

There are three sections which ask about equipment, specifically current equipment: (1)'present means of positioning', located in the initial subjective intake section (does not ask about mobility base initially), (2) 'means of mobility - method of propulsion', and (3)'transportation - (type of vehicle, safety devices, lifts)'. The latter two are in the physical assessment section, which seems misplaced. It is not clear to the reviewer why the latter two are separated from the first. Performance data, i.e., "has the equipment been successful for the user?", is not specifically sought, but obviously could be added in. There is no section re: trial equipment, however this instrument seems to include only initial screening/assessment data.

c. User performance

Instrument inquires re: diagnosis, medical/surgical history, sensory impairment, ADLs and environs/access (home, school, workplace), as well as "activities in wc". Seems to hit upon all 3 W.H.O. categories.

d. Environmental Resources

Mat table, and preferably a seating simulator.

Cost

Instrument was created at center. No formal cost for others to acquire.

Sample Questions

The following reflects questions which were ambiguous to the reviewer, and were largely clarified by the author:

Anatomical measurements (body chart was clear, but description somewhat unclear):

"Back of seat surface to back of knee" = butt - knee; " back of seat surface" is unclear.

"Left/right leg drop" = popliteal fossa - heel. Hadn't heard of this referred to as leg drop before.

"Seat to back angle when measured" = from flamingo simulator.

Omitted were: chest depth (written in when needed), height (not needed) and seating surface-to-hanging elbow (not taken).

Funding source of the current equipment was omitted.

Question is asked whether w/c push-up is performed, but there is no inquiry regarding other means of pressure relief.

There was no question regarding communication. Per author this is generally written under the "adaptive equipment" section. This may be more logically placed along with the visual/hearing impairment questions.

Accommodations

Since the instrument is a set of open-ended questions, it has the capacity to be very comprehensive, should the user choose to elaborate on each topic. In addition, it comprises the foundation of information needed for an AT evaluation in general. Thus, with modification (i.e., decrease emphasis on the specific s/wm components)it could be used as part of an evaluation (initial screening?) for ECU, AAC, computer access.

Interpretation of Data (process)

Data collected from this instrument should be used to proceed to the next step of the s/wm evaluation: mock-up of equipment/ trials --> identification of equipment properties.

Reported Reliability and Validity

Reportedly, the team has been using this instrument for multiple years. It follows that they have found it to glean useful and appropriate data. However, due to its open-ended format, the "reliability and validity" (and I feel these terms need to be applied very loosely and non-statistically in this application) of this instrument are largely dependent on the user. A rookie and a veteran user's data could look very different, for example, under the heading "ROM/contracture", subheading "pelvic girdle". Since the instrument does not specifically guide the user to assess whether the client can achieve a neutral pelvis/slight anterior tilt, a rookie may neglect to document this critical information.

Advantages

The instrument is comprehensive with regard to the breadth of information that can be obtained using this outline format.

Disadvantages or Limitations

The open-ended format lends to the possibility of a wide range of data collected, with regard to type/depth of information.

The level of written guidance/instruction within the instrument may be too minimal for a new user to the instrument and/or a rookie AT clinician/technologist.

Converting the format to, in part, more of a checklist/fill-in-the blank format, may increase efficiency of use (as well as "reliability and validity") regardless of the level of experience of the user. Modifying the format could help tailor the instrument to zero in on the aspects of the measurements needed with regard to the seated posture. For example, rather than an open-ended question regarding lower extremity ROM, formatting the question to help zero in on i.e., hip and knee flexion with regard to the position of the pelvis may be beneficial.

Recommendations for Future Use: See above.

CONTACT INFORMATION

Source for Instrument
Contact person for answering questions for this review:
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Reviewer:
Kim Davis, MSPT
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Helen Hayes Hospital
Rt. 9W
West Haverstraw, NY 10993
914 947 3000 x 3995 Email: kdavis820@juno.com

RESPONSE TO REVIEW

We appreciate and are in agreement with most all comments made by our reviewer, Kim Davis. This form is used by a PT who has been the primary provider of this service for many years. We do not expect a novice therapist to
understand all necessary components of a seating and mobility evaluation off of this form, or much less any form. Although the checklist idea is more efficient, we find that our severely disabled clients require more descriptive information to be provided in an assessment rather than checking off that a condition exists or doesn't exist. The form in its current state is appropriate for our current needs although we are constantly striving to improve what we do. We will consider modifying the form to allow for some portions in checklist format. The form as submitted is primarily used as a guide with space to describe specific information in the various areas or categories mentioned; and those that are not appropriate for a certain client are omitted. In other words, our utilization of the form is very dependent on the client and their identified needs. Once the form is completed, it is then translated into a narrative evaluation report.

Rebecca Taggart
The Rehabilitation Center

WHEELCHAIR/SEATING ASSESSMENT WORKSHEET

Name:

DOB:

DX:
Residence:

Referring M.D.:

Treating Therapists:

Funding Source:	Alternate Source:
Policy #:	Policy #:

Significant Medical Hx:

Surgeries Past and Proposed:

Bracing Required:

Hearing Impairment:

Visual Impairment: (See Pulpusion/Power) section)

Present Means of Positioning (type, model, serial numbers, inserts, purchase dates).

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PHYSICAL ASSESSMENT

ROM/CONTRACTURE (note degree, describe, obliquities, rotations, reducable/nonreducable, subluxations/dislocations)

Neck:

Upper extremities:

Shoulder girdle:

Trunk:

Pelvic girdle:

Lower extremities:

ABNORMAL REFLEXES, AND POSTURES

MUSCLE TONE:

SENSATION (Include hx of pressure/sheer breakdown)

ADLS

Feeding:

Dressing:

Toileting:

Bathing:

Adaptive Equipment:

MOTOR CONTROL

Head Control:

Sitting Balance:

Upper Extremities (including grasp, strength, patterns of movement):

Lower extremities (include strength, level of lesion, patterns of movement):

MEANS OF MOBILITY

Mobility without the wheelchair:

Method of Propulsion (see power eval.)

Propels forward/backward on level ground:
   Up/down ramps:
   Outside:
   Up/down curbs:
   Does W/C pushups:

TRANSFERS:

TRANSPORTATION (Type of vehicle, safety devices, lifts)

Residence:

School/community:

ACCESS
Home:

School:

Workplace:

ACTIVITIES IN WHEELCHAIR

GOALS

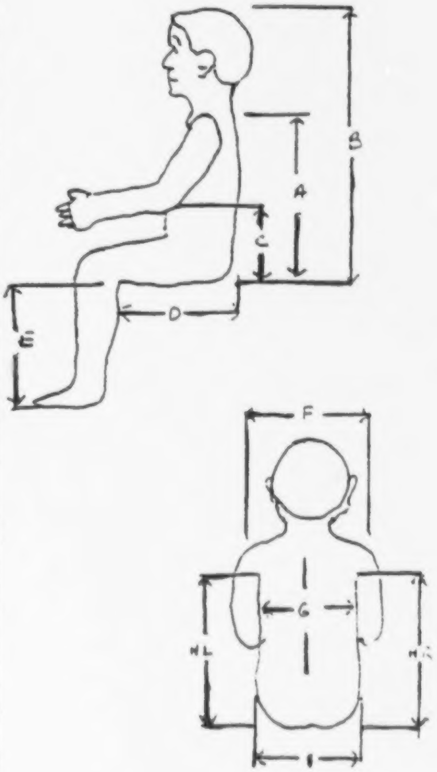
RECOMMENDATIONS

The Rehabilitation Center

DATE: ____________________

CLIENT NAME: ____________________

DATE OF BIRTH: ____________________



		Measurement in inches
A	Top of seat surface to top of shoulders	
B	Top of seat surface to top of head	
C	Height of Pelvis	
DL	Back of seat surface to back of left knee	
DR	Back of seat surface to back of right knee	
EL	Left leg drop	
ER	Right leg drop	
F	Shoulder width	
G	Chest width	
HL	Axilla height - Left	
HR	Axilla height - Right	
I	Hip width	
J	Heel to toe	
K	Seat to back angle when measured	
L	Date of birth	
M	Weight	

NOTES: ____________________

Building Better Lives

Easter Seals

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Phone: (812) 479-1411 • Fax: (812) 474-2351

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Instrument: **Wheelchair Positioning Evaluation Form**
Physical Skills Assessment for Switch/Access,
Computer Access Form
Mobility Base Evaluation Form
Power Mobility Evaluation Form

Author(s): Submitted by: Carole Ramsey, OTR/L, Occupational Therapy Dept., University Hospital School

Reviewer: Mala Aaronson

Format of Instrument

Paper and pencil format. Mostly checklist; no diagrams or pictures.

Domain(s): Functional / Performance

Purpose

Evaluate needs, make recommendations for equipment needs.

Population

People with mobility impairments requiring wheeled mobility and/or specialized seating.

Setting of Administration

University Hospital School, an evaluation and diagnostic center that services individuals with developmental disabilities and their families.

Materials and Tools Required

Pen. Tape measure. Goniometer. Observation area. Mat for evaluation.

Method

Method of administration appears to be primarily interview and observation. It was unclear if a full mat evaluation is to be performed.

Types of Data

a. Reporting:

Instrument collects data via subjective interview questions as well as through observation. Information is provided by client or others depending on age. There does not seem to be any standardization of data, except where ROM is noted. Checklists provide access to positive/negative responses, as well as a general range of three choices for severity. Limited "comment" space is provided for most topics.

b. Performance data of device

This is covered well in a general fashion, noted for both powered and manual mobility bases, but no room for detail in regard to the equipment itself. this tool is more focused on the user's ability to benefit from the equipment, and what changes might optimize function.

c. User performance: n/a

d. Environmental Resources

User performance and Environmental Resources are covered quite well with numerous guidelines utilized for a thorough evaluation of the user's performance (especially with powered mobility) and the environmental issues that may be considerations for each client. There is minimal space for these areas provided in the forms, though they do provide good guidelines for the interviewer.

Cost: Instrument was created at University Hospital School. No formal cost for others to acquire.

Sample Questions: See instrument.

Interpretation of Data: Data is apparently used to formulate recommendations for changes in or provision of new equipment, as well as further evaluation. Limited space is provided though.

Reported Reliability and Validity None reported.

Advantages

There are several instruments that address aspects of mobility an accompanying needs.

Recommendations for Future Use

In summary, these evaluation impress me as helpful guidelines for a thorough evaluation consisting of interview, observation and physical evaluation. Specifically, I feel that it would be a good teaching tool (which it is presently in use), as long as it is accompanied by an experienced therapist or teacher. Overall, as an evaluation tool, it lies somewhere between a strong guideline (in that it touches on so many of the important considerations and issues that need to be addressed) and a weak checklist (because if it were to take on a complete checklist format, more detail would be required, especially in ares of ROM and specifics regarding pressure sores. For future use I would recommend a more specific checklist or adding more space to comment on these topics for a thorough evaluation summary. Thank you for bringing my attention to many of these often overlooked issues.

CONTACT INFORMATION

Source

Carole Ramsey, OTR/L, ATP, Supervisor, Occupational Therapy
The University Hospital School
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319 353 6428 Email: carole-ramsey@uiowa.edu

Reviewer:

Mala Aaronson
9 Fairway View, Norton, MA 02766
508 647 8100 w

RESPONSE TO REVIEW

University Hospital School, part of the University of Iowa Hospital and Clinics, is an interdisciplinary evaluation and diagnostic center serving individuals with developmental disabilities and their families. Training, research and information sharing are also important components of our program. The Occupational Therapy Department provides three month internships for four to six Level II occupational therapy students each year.

Assistive Technology services at our facility include: mobility base evaluations (manual and power), wheelchair seating, switch assessment, computer access, augmentative/alternative communication, and environmental control. A variety of state of the art equipment is available for assessment purposes. Team composition may vary depending upon type of technology requested but will generally include individuals from the following disciplines: occupational therapy, physical therapy, speech/language pathology, education, rehabilitation engineering, social work, medicine and nursing.

We provide in-house fabrication of wheelchair seating systems utilizing hand-carved wood and foam, contour-U, Silhouette, Otto Bock components along with a variety of other commercial headrests, straps, etc. Custom solutions to meet a unique need is a specialty of our rehab technicians.

The evaluations were designed for the occupational therapy staff to use during team or individual assessment. It is hoped that with each clinician gathering similar assessment data, our evaluation process will become more standardized and complete. These assessment tools appear beneficial to our students in developing critical thinking skills relative to assistive technology. I envision that these forms should undergo regular updating with input from all staff. And perhaps, over time, the information will assist with collecting outcome data. I would appreciate feedback from other involved in this project.

--- Carole Ramsey, OTR/L, ATP

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A Resource for People with Disabilities and Their Families

OCCUPATIONAL THERAPY DEPARTMENT

POWER MOBILITY EVALUATION

Name: ____________________ B.D.: __________ Date: __________

Diagnosis: ____________________ Condition Stable: _____Yes _____No

Client's Expected Outcomes: ____________________

Funding Source(s): ____________________

Current Wheelchair: ____________________

Current Seating System: ____________________

Anticipated Transportation of New Base: Car __________ Van __________

Lift Van/Bus ____________________

Tie Down System: ____________________

DRIVING EVALUATION

Wheelchair Model: ____________________ Size: __________

Controls and Placement: ____________________

____________________ Handedness: __________

Postural Support Used: ____________________

____

Physical Skills	Yes	No	Comments
Turn chair on and off			
Move chair in forward direction			
Stop on command			
Drive straight path in open area (9 feet or more)			
Drive straight narrower path (less than 6 feet)			
Turn right			
Turn left			
Turn 180 degrees			
Back up			
Look while backing up			
Spatially approach doorway and drive through			
Drive near people, objects without hitting			

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Cognitive/Behavioral Observations	**Yes**	**No**	**Comments**
Interested in independent mobility			
Understands cause and effect			
Momentary attention to task			
Concentrates on task			
Concentrates in distracting environment			
Listens and follows directions			
Understands concepts - forward, right, left, etc.			
Aware of safety to self and others			

Summary/Recommendations: ______________________________

____

____

____

____

____

____

____

____

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OCCUPATIONAL THERAPY DEPARTMENT

WHEELCHAIR SEATING EVALUATION

Name: ______________________ B.D.: __________ Date: __________

Diagnosis: ______________________ Condition Stable: _____ Yes _____ No

Client's Expected Outcomes: ______________________

____

Funding Source(s): ______________________

Current Mobility Base: ______________________

Current Seating System ______________________ Date Provided: __________

____

Condition of Components (foam, upholstery, tray, etc) ______________________

____

What has worked well? ______________________

____

What should change? ______________________

____

Sitting Time/Tolerance: __________ **Time Out of Chair:** __________

Pain: ______________________

History of **Pressure Sores** __________ **Active Sore** Presently __________

Functional Skills

(Interview client/caregivers)

Activity	Indep	Assist	Dep	Equipment/Comments
Feeding				
Dressing				
Toileting				(urinal)
Transfers				(type)
Communication				
Mobility				
School/Work				

____

____

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Orthopaedic/Neuromuscular Evaluation

(Client in supine and sitting)

Head Control: Good _____ Fair _____ Poor _____ Position ____________________

____

Trunk Control: Good _____ Fair _____ Poor _____ Sit Unsupported ____________

Leans: _____ Right _____ Left Rotates: _____ Right _____ Left

____

Spine:

________ Scoliosis ________ fixed ________ flexible

________ Kyphosis ________ fixed ________ flexible

________ Lordosis ________ body shell

UE ROM/Tone/Reflexes: (influencing sitting position and function) ____________________

Shoulders ____________ Elbows ____________ Wrists ____________ Hands ____________

____

Tone: ________ hypotonic ________ hypertonic ________ fluctuating/mixed

____

Reflexes: (observed in sitting) ______ATNR: ______right ______left

______STNR ______TLR ____________________________________

____

Pelvis in Sitting: ____________________________________

________ anterior tilt ________ fixed ________ flexible

________ posterior tilt ________ fixed ________ flexible

________ obliquity ________ R higher ________ L higher

________ rotation ________ R forward ________ L forward

LE ROM/Tone:

________ ROM WNL for sitting

________ Contractures of hips _____ <110 degrees _____ >110 degrees

________ Contractures of knees _____ <110 degrees _____ >110 degrees

________ Abduction contractures ________ Adduction contractures

________ Feet obtain neutral postures _____yes _____no

________ Hip pain

________ Hip dislocation ________ right ________ left

________ Leg length discrepancy: R _____" longer L _____" longer

________ Windswept (describe) ____________________________________

________ Bracing: ____________________________________

____

____

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Special Conditions Impacting Seating:

_____Degenerative Condition
_____Low weight
_____Gastrostomy
_____Obese
_____Incontinent
_____Drooling
_____Impaired Circulation
_____Pressure Sores
_____Ventilator/O2
_____Tracheostomy
_____Hearing Impairec
_____Visual Deficits
_____Destructive Tone
_____Destructive Behaviors

Transportation Issues:

______ Chair must fold for transportation

______ Inserts need to be removable

Maximum sitting height for van clearance ________

Plans for Seating System:

Seat ______________________________

Back ______________________________

Headrest ______________________________

Leg/Foot Support ______________________________

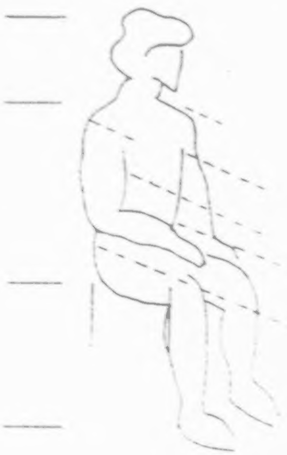
Straps ______________________________

Tray/Upper Extremity Support ______________________________

Interfacing Hardware ______________________________

Color/Upholstery/Other ______________________________

Measurements



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[illegible]
A Resource for People with Disabilities and Their Families

OCCUPATIONAL THERAPY DEPARTMENT

SWITCH ACCESS EVALUATION - AAC - Computer Access

Name: ______________________ Date: ______________

Diagnosis: ______________________ B.D.: __________ C.A.: __________

School/Work Program: ______________________

____

____

Funding Sources: ______________________

Switches/AAC/CA Devices (previously tried/owned) ______________________

____

____

Desired Outcome of Client: ______________________

Positioning of Client: ______________________

____

____

Physical Assessment

Head Control: ______________________

____

Trunk Control: ______________________

____

Upper Extremity Movement: ROM: ________ WNL Limitations: ______________

____

____

Tone: ________ WNL ________ Hypotonic ________ Hypertonic ________ Fluctuating

____

Influencing Controlled Movement: Reflexes: ______ ATNR ______ STNR ______ TLR

______ extensor patterns ______ flexor patterns ______ incoordination

______ tremor ______ weakness ______ fatigue ______ pain

____

____

____

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Functional Access Sites and Switches

(Evaluate for reliability and repeatability)

Hand: ____

Head: ____

Arm: ____

Foot: ____

Knee/Leg: ____

Adaptations: (Splints, pointers, etc.) ____

Functional Switches: ____

Sensory/Perceptual Skills

Vision: ____ WNL ____

Tracking/Scanning: ____

Perceptual Skills: ____ Intact ____ Deficit Suspected ____ Recommend Testing

Tactile/Kinesthesic: ____

Hearing: ____ WNL/no aids ____ Aided

Social/Cognitive/Behavioral Observations

	No	Yes	Comments
Cause and Effect			
Attention Span			
Short/Long Term Memory			
Motivated for Task			
Understands/Follows Directions			
Solves Problems			

Summary/Recommendations: ____

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OCCUPATIONAL THERAPY DEPARTMENT

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A Resource for People with Disabilities and Their Families

MOBILITY BASE EVALUATION

Name: ______________________ B.D.: ________ Date: __________

Diagnosis: ______________________ Condition Stable: _____ Yes _____ No

Client's Expected Outcomes: ______________________

____

Funding Source(s): ______________________

Current Manual/Power Wheelchair: ______________________

Size W x D: ____________ When Purchased: ____________

How Propelled: Hands ________ Feet ________ Assisted/Dependent ________

Power Control: ____________ Control Site: ____________

Condition/Fit/Appropriateness of Base: ______________________

____

Current Seating System: ______________________

____

Transportation of Base: Car ________ Van ________ Lift Van/Bus ________

Tie Down System: ______________________

____

Home Setting/Access: Rural ________ Suburban ________ Urban ________

Side Walks ________ Paved/Gravel ________ Stairs ________ Ramp ________

____

____

ASSESSMENT

(Observation, interview, hands on evaluation)

Head Control: Good _____ Fair _____ Poor _____ Position ____________

____

Trunk Control: Good _____ Fair _____ Poor _____ Sit Unsupported ________

Leans: _____ Right _____ Left Rotates: _____ Right _____ Left

____

UE ROM/Tone/Strength Concerns: ______________________

Shoulders ________ Elbows ________ Wrists ________ Hands ________

____

LE ROM/Tone/Strength Concerns: ____________________

Hips ____________ Knees ____________ Feet ____________

Hip Pain: ________ Disl./Subl. Hip: ________ Leg Length Disc. ________

____

Skin Condition: Circulation: ____________ Sensation: ____________

History of or Current Pressure sore ____________________

Functional Skills Assessment/Interview (consider all activities performed in/from wheelchair

Feeding: ____________ Dressing: ____________

Grooming: ____________ Toileting: (urinal?) ____________

Propel/Drive Chair: ____________ School/Work: ____________

AAC/Computer: (attach to chair or work at table) ____________

Transfers: (describe) ____________________

Leisure/Other: ____________________

Other Considerations for Base Selection: (check all that apply)

____ Degenerative Condition
____ Gastrostomy
____ Obese/Tall
____ Center of Gravity
____ Overall Sitting Height
____ Destructive Tone
____ Unable to shift weight
____ Ventilator/O2
____ Tracheostomy
____ Visual Deficits
____ Hearing Impaired
____ Destructive/Unsafe Behavior

____

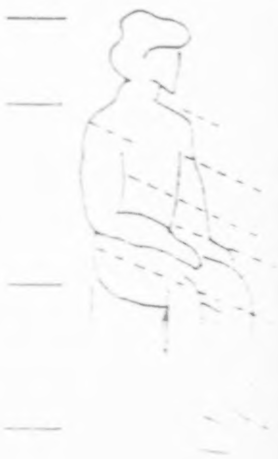
Recommendations: Grow Current Base ________ Serial Number ____________

Parts Needed: ____________________

____

New Base Recommended: *(standard, heavy duty, lightweight, hemi, tilt, recline, armrests, legrests)*

Measurements



____
____
____
____
____
____
____

Power Wheelchair Evaluation Recommended: ____________

____

otmob/cramsey/11-97

Instrument: **Medicaid Guidelines for Seating/Positioning and Wheeled Mobility Equipment, March 27, 1996 edition**

Author(s): Developed by the New York State Department of Health, Bureau of Standards Development, William E. Reynolds, D.D.S., M.P.H., Director

Reviewer: Laura Cohen

Respondent: Anita Perr

Format of Instrument

This instrument consists of a standardized process to document medical necessity for Durable Medical Equipment requests to be used in making Medicaid approval or denial decisions for funding. The instrument consists of standardized forms with open ended questions and matrixes to categorize equipment request based on the clients medical needs.

Domain(s) Functional/Performance, Cost, Time for Payment Approval

Purpose

The guidelines were developed by a committee consisting of consumers, therapists, advocates, state officials, and providers, to develop a standardized process that seeks to match the presenting consumer's functional needs, purposes and places of use of the durable medical equipment system with the features of products most likely to ensure appropriate and cost-efficient selection.

The development and use of these guidelines is intended to:

- facilitate consistency and timeliness in the decision-making process
- improve consumer access and timeliness of services
- facilitate a common understanding of seating and wheeled mobility technology
- identify the most appropriate, cost efficient seating and mobility technology
- delineate the roles and responsibilities of each participant in the process
- improve and simplify the documentation of the clinical decision-making process
- improve functional outcomes
- support follow-up services such as equipment usage, training, maintenance/repair and follow-up evaluations

Population

New York State Medicaid enrollees requesting purchase, rental, repair or modification of durable medical equipment including manual and powered wheelchairs and seating/positioning systems.

Setting of Administration

The Medicaid seating and wheeled mobility request forms can be completed in a variety of settings dependent on the professionals place of practice. Some settings might include the Rehab Technology Suppliers business, hospital (inpatient and outpatient), nursing home, group home, day programs, rehab facilities, consumers home, school, etc.

Materials and Tools Required

Medicaid seating and wheeled mobility request forms section A-G. All forms were not available during the review so specific tools required is not determined.

Method

Evaluation of a consumer's seating, positioning and wheeled mobility needs would be completed, evaluation of the consumer's functional abilities determined and applied within a decision matrix to then select an appropriate equipment option to maximize a consumer's functional abilities.

Types of Data

Both subjective and objective data will be collected to develop a complete picture of a consumers functional and medical needs.

a. Reporting: Information would be collected from the consumer. It is possible that additional information provided by the consumers' family, caregivers, therapy team etc. would be beneficial and helpful to this process.

b. Performance data of device (engineering) unavailable

c. User performance unavailable

d. Environmental Resources unavailable

Sample Questions

Questions included are as follows:

Consumer name, address, phone, MA# etc.

1. DME provider, phone
2. Evaluation clinician, phone
3. Equipment request specifications
4. Accessories that will assist a consumer to overcome a particular medical or functional problem and the problem
5. Have less expensive equipment alternatives been considered? Details regarding the consideration of these alternatives.

Accommodations unavailable

Interpretation of Data : This tool is still under development and is currently being pilot tested. Information about this process was not available.

Reported Reliability and Validity

This tool is still under development and is currently being pilot tested. Information about the reliability and validity tests were not available.

Cost: Unavailable

Advantages:

Excellent tool to standardize DME requests, documentation and determination process. This process seems to allow concise documentation and follows the state of the art clinical decision process (identifying consumers medical and functional problems/potentials, identifying goals of equipment intervention, identifying equipment features required and matching features to definitive equipment).

The matrixes categorize the equipment which the clinician can identify using multiple clinical indicator questions. The matrixes appear very thorough for clinicians of all skill and experience levels to use. It would seem that the majority of clinicians would end up with a product in the same category to meet a specific consumers needs even if the specific product differed.

Disadvantages or Limitations

Unfortunately the entire tool was not available for this review. The forms are still under development and are currently being tested.

It was not described how specific manufacturers products would be categorized to aid the reviewer in determining whether requested equipment was in a specific category. This process will need to be ongoing and updated as the number of new products changes continuously.

Special Accommodations: unknown

Recommendations for Future Use:

This tool can by used as a model in other states and for other funding sources (Medicare, Vocational Rehabilitation, HMO's, PPO's, etc.) to standardize the documentation, request and determination process.

CONTACT INFORMATION

Source:

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212 228 6460 Email: perr@is.nyu.edu

Reviewer:

Laura Cohen, TMC Healthcare
P.O. Box 42195
Tucson, AZ 85733
520 324 5400

RESPONSE TO THE REVIEW

This project hopes to simplify the approval process for positioning and mobility equipment for people with disabilities. The expectation is that if an equipment recommendation for an individual falls "in matrix", additional justification would not be necessary. However, this would not limit the pool of approved products to those that are "in matrix". If an individual required a device that falls "out of matrix", justification for those components or that device would be required. The goal of this project was to link the communication between the evaluator/equipment recommender and the person working for the funding agency. The feeling was that in most instances, equipment recommendations are fairly straight forward and the use of the matrices would suffice. Additionally, the system allowed for those instances where an individual's needs were more complex or for some reason were not serviced by the devices laid out in the matrices.

Wheeled mobility and seating/positioning devices were organized into categories dependent on their functional properties. These categories were then organized into the matrices. The end product, therefore, was a logical framework for organizing wheeled mobility and seating/positioning devices. It is expected that devices that are currently available can be fit into the matrices and as new products become available, they too, will be incorporated into the matrices.

People using this system will continue to use their own comprehensive seating and positioning evaluation format to determine the needs of their clients. Once an evaluation is completed, the evaluator/recommender could use the system to organize their approach to product selection.

Since March of 1996, the matrices have been revised and a manual for using the system has been developed. The manual includes guiding questions that lead the evaluator/recommender to the various categories in the matrices, similar to a decision tree or flow chart. A form for sharing this information with the funding agent was also developed. At this time, the procedures are being tested on a small scale. These trials will determine the potential usefulness of the tool and may result in the need for further revisions.

Anita Perr, MA, OT

Wheeled Mobility Guidelines For Consumer Access To Wheeled Mobility & Seating/Positioning Devices

Developed by the New York State Department of Health.
Bureau of Standards Development
William E. Reynolds, D.D.S., M.P.H., Director
March 27, 1996

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Repair/Modifications Process .... Pg 8

Purchase Process for Wheeled Mobility, Seating & Postural Support .... Pg 9

Medicaid Seating and Wheeled Mobility Forms .... Appendix A

Manual & Powered (mobility) Postural Support (seat & back) Matrices .. Appendix B

Overview of Guidelines

Wheeled mobility devices, classified as Durable Medical Equipment (DME) under Medicaid, include manual wheelchairs, powered wheelchairs, and seating and positioning components of wheelchairs. Medicaid reimbursement of these items requires that the devices be medically necessary to prevent, correct or cure conditions that cause acute suffering, endanger life, result in illness or infirmity, interfere with a person's capacity for normal activity, or threaten some significant handicap[1].

A standardized process, to be used in making Medicaid approval or denial funding decisions, encompassed in the following pages, has been developed by a diverse committee of consumers, therapists, advocates, state officials, providers and others. This process was developed under the guidance of the Department of Health's Bureau of Standards Development, with the support of the New York State Office of Advocate for Persons with Disabilities, TRAID Project, [2] to facilitate access to wheeled mobility, seating and positioning equipment by providing objective criteria to determine medical necessity and cost-effectiveness when recommending, prescribing and evaluating this type of equipment. The process seeks to match the presenting consumer's functional needs, purposes and places of use with the features of products most likely to ensure appropriate and cost-efficient selection.

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[1] Social Services Law Section 365a-2

[2] The TRAID Project (Technology Related Assistance for Individuals with Disabilities) is funded under Public Law 100-407 by the National Institute on Disability and Rehabilitation Research. U.S. Department of Education.

General Purpose Statement

The development and use of these guidelines is intended to do the following:

1) facilitate consistency and timeliness across state regions in terms of agency decision-making and overall approval and payment processes used;

2) facilitate improved consumer access and timeliness of services;

3) facilitate a common understanding of seating and wheeled mobility technology;

4) recognize and support the need for cost containment while also assuring consumer access to the most appropriate seating and mobility technology;

5) delineate the roles and responsibilities of each of the participants in the process, including the consumer;

6) improve and simplify the documentation of the clinical decision-making process;

7) recognize the differences in the functional/biomedical characteristics of the mobility vs. the seating system;

8) improve functional outcomes;

9) support follow-up services such as equipment usage, training, maintenance/repair and follow-up evaluations.

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Definitions/Terminology

CONSUMER - A Medicaid recipient who is seeking access to a seating, positioning and/or wheeled mobility device.

(DME) PROVIDER - A Medicaid enrolled provider of durable medical equipment

THERAPIST - (CLINICIAN) - An occupational or physical therapist preferably specializing in the area of rehabilitation and the application of commercially available seating and mobility technologies. Official titles will be used once test criteria are developed for therapists to be professionally certified in the area of seating, positioning and wheeled mobility.

PRESCRIBER - A physician, physician's assistant or nurse practitioner.

MANUAL WHEELED MOBILITY MATRIX - A chart that defines the features of some types of manual mobility equipment then allows a match by cross referencing these equipment characteristics with a consumer's documented clinical indicators.

MEDICAID REVIEWER - New York State Department of Health Bureau of Medicaid Management Information administrator responsible for the adjudication of Medicaid prior approval requests.

MEDICAID SEATING AND WHEELED MOBILITY REQUEST FORM - A set of forms that ask questions about a Medicaid eligible consumer who is seeking rental, repair, modifications, or purchase of wheeled mobility and/or seating equipment.

MMIS -New York State Department of Health Bureau of Medicaid Management Information Systems — responsible for the adjudication of prior approval requests for Durable Medical Equipment.

POSTURAL SUPPORT MATRIX - A chart that defines features of back support or seating support equipment designed to improve a persons medical or functional abilities. The chart allows the match of these features with a consumer's documented clinical indicators.

POWERED WHEELED MOBILITY MATRIX - A chart that defines some types of powered mobility equipment then allows a match of these features with a consumer's documented clinical indicators.

Areas Not Requiring Prior Approval

Medicaid prior approval is not required for the following:

1. Rental, repairs or replacements of wheel locks, batteries and tires less than $300 including labor.

2. Rental of stock wheelchairs for a period up to 3 months at the following rates:

Standard manual ——**$40/mo.**

Standard manual
with elevating leg
rests, sling back
seat —— ————**$45/mo.**

Standard manual
with reclining sling
back seat & heavy
duty or extra wide——**$60/mo.**

3. Minor repairs on any wheeled mobility, seating or positioning item totaling less than $50.

The following codes may be billed:

K0066...... Solid tire

K0067...... Pneumatic tire

K0068...... Pneumatic tire tube

Z4560...... **Repairs less than $50, including parts and labor (requiring prior approval if more than once per year)**

Z4556...... Replacement of brakes including parts and labor

Medicaid Prior Approval Process For Rental Of Wheeled Mobility

STEP 1: It is determined that a Medicaid eligible consumer needs to rent some type of wheeled mobility equipment and a DME provider, therapist, or prescriber is contacted to document the consumers needs.

STEP 2: A DME provider, therapist or prescriber completes **Section A** of the **Seating and Wheeled Mobility Request Form** and completes the **New York State Prior Approval Form.**

STEP 3: Section B must be completed by a DME provider or therapist, and signed by the prescriber.

STEP 4: Sections A and B of the **Medicaid Seating and Wheeled Mobility Request Form** along with the **New York State Prior Approval Form** are submitted to MMIS Area Office by a DME provider.

STEP 5: Within 21 days, the MMIS Area Office renders a written decision to approve, modify, or deny request and specifys approved length of time for the rental.

REQUEST APPROVED:

STEP 5a:
If the request is approved, rental funding can be provided for up to 6 months. For extension beyond 6 months a second prior approval request must be submitted, repeating steps 1-5.

STEP 5b:
Equipment is delivered by the DME provider to the consumer.

STEP 5c:
Consumer returns equipment to the DME provider when no longer needed or when the approved rental period has ended.

REQUEST DENIED OR MODIFIED

STEP 5a:
If request is denied or modified, MMIS Area Office issues a written denial or modification notice to the DME provider, the consumer, and the prescriber. The consumer is also advised in writing of their right to a fair hearing.

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Medicaid Prior Approval Process for Repairs or Modifications of Wheeled Mobility, Seating and Positioning Equipment

STEP 1: It is determined that a Medicaid eligible consumer needs repairs or modifications to an existing manual or powered wheeled mobility or seating/positioning component and DME provider, therapist or prescriber is contacted to document the consumers needs.

STEP 2: DME provider or therapist or prescriber, fills out **Section A** of **Medicaid Seating and Wheeled Mobility Request Form**, and the **New York State Prior Approval Form** (DSS 3615). The prescriber signs the completed form.

STEP 3: DME provider, therapist or prescriber, fills out **Section C** of **Medicaid Seating and Wheeled Mobility Request Form**. The prescriber signs the completed form.

STEP 4: Sections A and C of **Medicaid Seating and Wheeled Mobility Request Form** along with the **New York State Prior Approval Form** (DSS 3615) is submitted to MMIS Area Office by the DME Provider.

STEP 5: Within 21 days, the MMIS Area Office approves, denies or modifies request.

REQUEST APPROVED:

STEP 5a:
If the request is approved, DME provider makes repairs/modifications to equipment.

STEP 5b:
Funding, in accordance with Medicaid approval DME formula for repairs or labor and material for modification, is provided.

REQUEST DENIED OR MODIFIED

STEP 5a:
If request is denied, or modified, MMIS areaOffice issues written denial or modificatiion request to the DME Provider, the prescriber, and the consumer.The consumer is also advised in writing of their right to request a fair hearing

PRIOR APPROVAL PROCESS FOR REPAIR/MODIFICATIONS ENDS HERE. CONTINUE IF PURCHASE OF WHEELED MOBILITY OR SEATING/POSITIONING EQUIPMENT IS NEEDED.

Purchase Of Wheeled Mobility and/or Seating and Positioning Components

Situation 1: **("In Matrix"—Wheeled Mobility)** All the consumers clinically indicatec needs are met based upon completion of **Section D** or **Section E** of the **Medicaid Seating and Wheeled Mobility Request Form** and by selection of equipment from the **Manual Mobility Matrix.**

Situation 2: **("In Matrix"—Wheeled Mobility & Postural Support)** All the consumer clinically indicated needs are met based upon completion of **Section D** or **E** and **Section F** and/or **G** of the **Medicaid Seating and Wheeled Mobility Request Form** and by selection of equipment consistent with the **Manual or Power Mobility Matrix and the Postural Support Matrix.**

Situation 3: **("Out of Matrix")** The consumer's clinically indicated needs cannot be met based on responses to the matrix questions.

Situation 4: **("In Matrix"—Seats and/or Backs)** The consumer's clinically indicated needs are met through selection of equipment in the **Postural Support Matrices** and the request is for a seating/positioning component.

PURCHASE PROCESS FOR SPECIFIC SITUATIONS

Depending on the situation, the DMEprovider, therapist, prescriber should take the following actions:

SITUATION 1 - PURCHASE OF WHEELED MOBILITY

STEP 1: It is determined that a Medicaid eligible consumer needs wheeled mobility manual or power), and a DME provider, therapist, or prescriber is contacted to document the consumer's needs.

STEP 2: The DME provider, therapist or prescriber fills out **Section A** of the **Medicaid Seating and Wheeled Mobility Request Form** and the **New York State Prior Approval Form** (DSS 3615).

STEP 3: Section D or E of the **Medicaid Seating and Wheeled Mobility Request Form** is completed by the DME provider, therapist, or prescriber. The prescriber signs the form after completion. **If the appripriate match of equipment cannot be made using the matrices, the **"out of matrix"** process described for **Situatiion 4** must be followed.

STEP 4: Section A and **Section D** or E of the **Medicaid Seating and Wheeled Mobility Request Form** and the **New York State Prior Approval Form** (DSS 3615) are submitted to the DOH/MMIS Area Office by the DME provider.

STEP 5: Within 21 days, the DOH/MMIS Area Offfice renders a written decision to approve, modify, or deny the request.

The Prior Approval Request is adjucicated as follows:

REQUEST APPROVED

STEP 5a:
DOH/MMIS Area Office notifies DME provider that Prior Approval Request has been approved.

DME provider orders equipment for consumer within 10 days of receipt of approval.

STEP 5b:
DME Provider receives equipment, contacts the consumer, and fits the equipment, preferably with the therapist in attendance.

STEP 5c:
DME provider submits the bill to Medicaid. Consumer tries out equipment and is satisfied. **If consumer is dissatisfied, DME provider or therapist is contacted to review and rectify the problem.
If problem cannot be resolved, consumer can be re-assessed and purchase process is repeated..

REQUEST DENIED OR MODIFIED

Request is denied or modified. DOH/ MMIS Area Office issues Written denial or modification notice to the DME provider, prescriber, and the consumer. The consumer is also advised of their right to a fair hearing.

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SITUATION 2 - PURCHASE OF POWERED MOBILITY

Process is the same as for Situation 1,except that the DME provider submits **Section A**, **D** of **E**. and/or **G** of the **Medicaid Seating and Wheeled Mobility Request Form** with the **New York State Prior Approval Form** (DSS 3615).

SITUATION 3 - PURCHASE OF MANUAL OR POWER MOBILITY AND/OR SEATING AND POSITIONING EQUIPMENT

Process is the same as for situation 1, except the DME provider, therapist, prescriber or physician submits **Sections D or E, and F and/or G** with **section A** of the **Medicaid Seating and Wheeled Mobility** Request Form with the **New York State Prior Approval Form (DSS 3615).**

SITUATION 4 - PURCHASE OF "OUT OF MATRIX" EQUIPMENT

Process is the same as situation 1, except that after completing **Section A** of the **Medicaid Seating and Wheeled Mobility Request Form** and any other applicable sections, the DME procider, therapist, or prescriber specifically describes why the consumer's needs cannot be met thruough the matrix selection process. This information is submitted as an attachment to the request form with the **New York State Prior Approval Form (DSS 3615).**

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The Prior Approval adjudication process is as follows:

REQUEST APPROVED:

STEP 5a:
Request is approved & the DME provider is notified of the approval.

DME provider orders requested equipment.

Step 5b:
Equipment is received by DME provider and fitted to consumer.

STEP 5c:
The consumer has 10 days to use and evaluate the equipment to ensure it is satisfactory. If it is not, the consumer may request a second evaluation.

REQUEST DENIED OR MODIFIED:

MMIS Area Office issues written denial to DME provider and advises consumer of their fair hearing rights.

Section A

DRAFT FOR TESTING PURPOSES ONLY

MEDICAID SEATING AND WHEELED MOBILITY REQUEST FORM

DIRECTIONS—Please answer the following questions and note that Section A must always be completed.

Consumer Name ____________________ Consumer MA # ____________ Consumer Phone# ____________

Consumer Address ____ Consumer DOB ____________

DME Provider Name ____ Provider Phone # ____________

Prescriber Name ____ Prescriber Phone # ____________

Evaluating Clinician / Facility ________________________________ Phone #'s ________/________

1. Purpose of Request (CIRCLE ALL THOSE APPLICABLE) Rental Repair/Modification
Purchase of Wheeled Mobility Purchase of Postural Support/and or/seating or positioning System

2. On the space provided below, please list Equipment Request Specifications:

____

____

____

____

____

____

____

____

3. One the space provided below, please list any necessary accessories that will assist the consumer to overcome a particular medical/and or functional problem:

ACCESSORY	PROBLEM TO BE OVERCOME

3a. Have less expensive equipment alternatives been considered? : Yes ____ No ____ In the space provided, please provide details regarding this consideration of these alternatives.________________________

4. Anticipated Duration of Equipment Use: (please check one) Less than 2 years ____ More than 2 years ___

5. Consumer Height ______ Consumer Weight ____ If changes are anticipated in the consumers height and weight, does the requested equipment reflect those potential changes to ensure the consumer is not adversely affected: Yes ____ No ____.

6 Diagnosis/Medical Condition (Please note the specific condition and significant medical history that directly affects the need for the a new wheeled mobility and/or seating, positioning system:)________________________

7. Does the consumer currently use any form of wheeled mobility? Yes _____ No _____ If yes, please cite the following:

Make __________________________ Model __________________________ Year ___________

Will the requested wheeled mobility equipment be used in addition to the existing equipment? Yes_____ No_____ If yes, please explain the need for additional wheeled mobility and/or seating/positioining equipment in the spaces below. ________________________

8. In choosing the equipment, has consideration been given to the following: Consumer access in the home environment, access through hallways, access through bathroom/ ease in transporting equipment? Yes ___ No ___

9. Can the consumer articulate their mobility / home environment / workplace environmental needs? Yes ___ No ___
If yes, please note their top four needs in the space provided below:

#1 ______

#2 ______

#3 ______

#4 ______

DIRECTIONS: PLEASE DIRECT THE REMAINING RESPONSES AS FOLLOWS: Rental Request: Complete Section B [illegible] and Modifications: Section C Questions 7-11. Purchase of Wheeled Mobility: Section D [illegible] Questions [illegible] and/or 25-35. Postural Support: Section F or G Questions 36-44 [illegible]

DRAFT FOR TEST PURPOSES ONLY **Section B**

SECTION B: RENTALS - Please complete this section if the request is for a rental.

1. Please explain why the rental is being requested: ______

3. What is the consumer's prognosis? ______

4. Has purchase been considered?: Yes ____ No ____ Please explain why rental of equipment is preferred to purchase of equipment: ______

5. Estimate of Cost: ______

6. Signatures (To be signed after completion of the form, Section B)

Consumer/Date (optional) ______ Therapist/Date (optional) ______

DIRECTIONS: RENTAL REQUEST STOPS HERE. [illegible] Approval Form (BSS [illegible]) [illegible]

7. Is repair or modification covered under warranty? Yes _____ No _____

8. Please explain why the repair or modificationisbeingrequested: ______________________________

9. Has purchase of new equipment been considered? (Briefly explain)______________________________

10. Estimate of cost: ______________________________

11. Signatures: (To be signed after completion of the form)

Consumer/Date (optional) ____________________ Therapist/Date(optional) ____________________

IF REQUEST IS REPAIR/MODIFICATION REQUEST, STOP HERE. SUBMIT SECTION A and B or C whichever [illegible]
[illegible]
IF REQUEST IS FOR PURCHASE OF NEW EQUIPMENT PLEASE CONTINUE

Matrix

Manual Wheeled Mobility Base

Description of Categories

	Standard Wheelchair Category 1	Lightweight Wheelchair Category 2	Multi-Adjustable wheelchair (rigid or folding frame) Category 3	Special Position Wheelchair-- Category 4	Dependent Wheeled Base (stroller and wheelchair type) Category 5
Description	A standard wheelchair is one that would generally satisfy the needs of the average size patient, is fabricated to withstand normal usage and body weight, and has a sling seat (6-18 inches wide & 16 inches deep), wheel locks, removable or fixed armrests and footrests, 8- inch casters, sling seat, and is capable of being easily folded as a complete unit without removing integral parts. Construction includes heavy steel cross frame and fixed rear axle position.	A lightweight wheelchair has removable and adjustable armrests and footrests, limited adjustment rear axle position, and a frame that folds for transport and storage. Minimum modifications are available.	A multi-adjustable wheelchair has high strength, light weight, low rolling resistance, folding or rigid frame, quick release rear wheels, and a rear axle that is fully adjustable.	A special position wheelchair is designed to meet mobility needs of a specific population, more emphasis on positioning, tilt-in-space, generally not primarily for self-propelling; usually has 15 - 20° of seat to back angle adjustability; usually has 30° of tilt-in-space adjustability, and usually has a rear axle that is fully or partially adjustable.	A dependent wheeled base has a fixed rear axle, but is attendant propelled. A mobility base is used on a part time basis, primarily for transport only (e.g. stroller)

Matrix

Manual Wheeled Mobility Base

Clinical Indicators

Clinical Indicators	Standard Wheelchair Category 1	Lightweight Wheelchair Category 2	Multi-adjustable (rigid or folding frame) Category 3	Special Position Wheelchair Category 4	Dependent Wheeled Base (stroller and w/c type) Category 5
Can consumer self-propel?	self- propel or independent	self-propel using upper or lower exrremities	self-propel	unable to self-propel or independently relieve pressure, poor postural support, especially trunk & head	unable to self propel
Does weight affect self propulsion?	weight does not affect propulsion	requires lighter weight for propulsion	requires lighter weight for propulsion	weight not a consideration for propulsion	weight not a consideration for propulsion
Does wheel placement affect self-propulsion?	wheel placement does not affect propulsion	requires only minimum modification of the wheel position for self-propulsion or positioning	requires movable wheel for self-propulsion or positioning aids	severe fixed skeletal deformity requiring special positioning	wheel placement does not affect propulsion
Is manual mobility device used for indoor/outdoor use on all terrain surfaces?	primarily indoor use	indoor/outdoor use, firm, flat surface	indoor/outdoor use, all terrain	primarily indoor use	primarily for indoor use
Is manual mobility device used primarily for positioning? (i.e. tilt)	primary use for mobility	primary use for mobility	used for mobility and positioning	primary use for positioning	primary use for mobility
Is manual mobility device used 25% of the day or more?	used 25% of day or more	used 25% of the day or more	used 50% of the day or more for mobility	used more than 25% of the day	used more that 25% of the day

MATRIX

Powered Wheeled Mobility Base

(A powered wheeled mobility base is only appropriate if the mobility demands of the user's environment cannot be met through ambulation or use of a manual wheeled mobility base.)

Description of Categories

	Light Duty Category 1	Moderate Duty Category 2	Heavy Duty Category 3
Maximum Carrying Weight	250 lb.	250 lb.	over 250 lb.
Description	4-wheeled mobility device, small wheels, direct drive, light duty, non-modifiable frame, standard width(16-18inches) and standard depth (16 inches), power drive usually designed to fold or break down for transportation, designed for hard surfaces with minimal incline.	Heavier duty frame, minimum modifications to frame for tilt, power train, belt or direct drive.	Heaviest standard duty frame and power train, offers maximum number of mechanical and power options available.

MATRIX

Powered Wheeled Mobility Base

(A powered wheeled mobility base is only appropriate if the mobility demands of the user's environment cannot be met through ambulation or use of a manual wheeled mobility base.)

Clinical Indicators

Clinical Indicators	Category 1 Light Duty	Category 2 Moderate Duty	Category 3 Heavy Duty
Does the consumer weigh over 250 pounds? Does consumer require a mechanical method of position change with 2 or more motorized systems? Is the consumer's environment all terrain?	• maximum carrying weight is up to 250 lbs. • does not allow for dynamic positioning • designed for indoor /outdoor use on hard surfaces with minimal incline	• maxumum carrying weight is up to 250 lbs. • allows for some dynamic positioning and seating devices; limited to no more than one power positioning option (i.e. recline with or without leg elevation) • for indoor/ outdoor use on all terrains	• maximum carrying weight over 250 lbs. • offers maximum number of mechanical and power options (usually 2 or more power positioning systems including tilt-in-space, recline, and ECU interface • for indoor/ outdoor use on all terrains

MATRIX

Postural Support: Backs

(these postural supports require the removal of the mobility base's back upholstery)

Description of Categories

	Posterior Support Only Category 1	Posterior and Lateral Support Category 2	Total Contact (posterior and lateral) Support Category 3
Description	provides only posterior support	provides moderate posterior and lateral support	provides maximum posterior and lateral support with contouring to accommodate physical deformities

MATRIX

Postural Support: Backs

(these postural supports require the removal of the mobility base's back upholstery)

Clinical Indicators

Clinical Indicators	Category 1	Category 2	Category 3
Does back support require removal of back upholstery?	Requires the removal of the mobility base's back upholstery	requires the removal of the mobility base's back upholstery	requires the removal of the mobility base's back upholstery
Is consumer able to maintain a static sitting positon against gravity with posterior support only?	Able to maintain static sitting position against gravity with posterior support only when not using arms or other compensation	unable to maintain static sitting position against gravity with posterior support only when not using arms or other compensation	unable to maintain static sitting position against gravity with posterior support only when not using arms or other compensation
Does consumer require maximum lateral and posterior total contact support to correct or accommodate alignment?	Requires minimal to moderate lateral support	requires minimal to moderate lateral support	requires maximal lateral support and maximal posterior support
Does consumer have multi-planar deformities that require accommodation?			Has multi-planar deformities requiring accommodation

MATRIX

Postural Supports: Seats

Description of Categories

	Minimal Support Category #1	Moderate Support Category #2	High Support Category #3
Description	a cushion used for minimal pressure relief and postural support; usually flat or with a pre-contoured surface	a cushion used for moderate pressure relief and postural support; usually modular or customizable contoured	a cushion used for maximal pressure relief and postural support; usually highly contoured and providing intimate contact with the consumer's body

MATRIX

Postural Supports: Seats

Clinical Indicators

Clinical Indicators	Minimal Support–Category 1	Moderate Support–Category 2	Maximum Support--Category 3
Is the consumer at low risk for tissue trauma?	low risk for tissue trauma	moderate risk for tissue trauma	high risk for or has history of tissue trauma
Does consumer have a significant fixed pelvic obliquity or significant limitations of hip ROM for symmetrical sitting?	Sits symmetrically or is easily corrected to an aligned pelvis and lower extremities	asymmetrical pelvic or lower extremity alignment that is correctable or can be accommodated with moderate intervention	has a significant fixed pelvic obliquity or significant limitations of hip ROM to sit symmetrically

Section D

Special Education

Instrument: **Assessment for Assistive Technology (1996),
Switch Assessment Data Sheet,
System Trial,
System Selection Guide (1997),
System Comparison Worksheet (1995),**

Author(s): Assistive Technology Educational Network of Florida (ATEN)

Reviewers: Michelle S.K. Silverman, OTR
Dave Edyburn, Ph.D.
University of Wisconsin - Milwaukee

Format of Instrument

This is a set of 5 components designed to take the user from general assessment to provision and use of assistive technology. It includes a Comprehensive Assessment for Assistive Technology which is a paper pencil checklist with some short answer sections. Also included is a System Selection Guide. This is a chart designed to assist the user in locating systems which contain appropriate features. It is completed by matching the desired features with the various devices available. A third component is the System Trial. This is a short answer and short narrative style guide to keeping data on at least three system trials. The fourth component is System Comparison Worksheet. This is a paper pencil checklist to compare the devices across features. The fifth component is a Switch Assessment Data Sheet. This is a short answer paper pencil guide to keep data on all switches attempted.

Domain(s)

The domains covered in the five components include: Positioning and mobility, motor skills access, alternate access, functional vision, communication, acuity-auditory comprehension, symbol systems. More generally, these components include domains for assistive technology assessment, selection and evaluation of utility to the student once the technology is in place.

Purpose

The purpose of the five components is to assess for assistive technology need within an educational setting. It is also designed to lead the professional through a systematic selection and trial of assistive technology.

Population

This assessment is designed for school aged children in a school environment.

Setting of Administration

This is designed for use in the school systems. It strongly supports multidisciplinary team and family involvement. Access to a private room in the school is desirable as best performances by the student may be obtained in a quiet room free of distractions.

Materials and Tools Required

The score sheets are necessary to successfully use the instrument. Additional equipment varies. Assessment of range of motion, strength and functional ability may require other materials or tools.

Method

The following steps summarize each component separately.

Assessment for Assistive Technology:

1) Complete background information and medical history. This step may require input from all members of the team. It is designed in paper pencil format.

2) The team members are identified and the parents and students signatures are requested.

3) Reason for current assessment, considerations for technology and past history of technology use is completed in checklist and short answer form.

4) Positioning and mobility are assessed with OT, PT consultation. There are specific positioning and mobility questions to be answered on the form.

5) Alternate access are assessed. This includes eye gaze ability, headpointer, switch control assessments.

6) Functional vision is assessed in short answer format.

7) Communication skills is assessed with the speech pathologist. A checklist is provided for guidance.

8) Acuity-auditory comprehension is assessed with consultation by audiologist if available.

9) The child's symbol system is assessed.

10) A summary/Recommendations form is completed synthesizing the information obtained in the assessment.

System Comparison Worksheet:

1) List the various devices being considered (up to three per page).

2) Check off the features included in each assessment.

3) Match the device to the user by visually determining which assessment has the most features needed by the user.

System Selection Guide:

This is a comprehensive review of commercially available voice output, low/light tech, and written output devices with features beside each one. It is designed in a grid so the user can visualize which devices have which features. This is designed to assist the user in selecting appropriate devices.

System Trial:

1) Identifying information is completed.

2) The trial use across environments is completed including short answer and checklists.

3) The students reaction to the device is recorded.

4) Strengths and weaknesses of the device are recorded in short answer format.
Switch Assessment Data Sheet:
1) Record identifying information.

2) Record in short answer the position used, device or toy used, device position, switch used, switch position, type of switch, and results.

3) Compare up to three per page and choose best one.

This package of assessments is not normed or standardized. It was developed to assist in the process of assistive technology assessment. It has been successfully used in practice.

Types of Data

a. Reporting

All reporting is done by observation and through use of formal and informal testing of the individual. Some portions of the assessment and selection guides are subjective by nature and some objective.

b. Performance data of device (engineering) Not applicable

c. User performance is primarily looked at, the disability and person's function. Some social participation questions are asked.

Accommodations

Accommodations were not discussed. However, this instrument does not require structured data gathering. The Assessment for Assistive Technology and its components are highly individualized. Accommodations may be easily implemented where needed.

Interpretation of Data (process)

The data collected in this assessment are not profiled as normative information. Comparisons are not made to groups, but to individual performance in educational tasks. Other than the Switch Assessment Data Sheet and the Assessment for Assistive Technology, the components are informational tools for decision making only. The Assessment for Assistive Technology is designed to assist the professional in making informed and systematic decisions when using the selection guides. The Switch Assessment Guide is similar in nature to the Assessment for Assistive Technology. It provides a guide for assessment and decision making in the final stages of assistive technology provision. For example, a team may determine that a student would benefit from an assistive technology assessment. They may begin by meeting with the team involved with the child's care including the parents. They would proceed by completing the Assessment for Assistive Technology and the Switch Assessment Data Sheet. From these they would gather pertinent information and be able to use the System Selection Guide to choose a number of systems that might meet the needs of the student. The next step would be to compare the chosen technology systems using the System Comparison Worksheet. Finally, a decision would be made and a system ordered for trial. When the trial is over, the System Trial sheet is completed and a decision is made as to whether or not the system will work for the child or another system should be investigated.

Reported Reliability and Validity

The data collected in the Assessment for Assistive Technology are subjective and individualized. Therefore norms are not reported for this assessment Nor is it standardized. There have not been any studies reported on the reliability or validity of the assessment to date. It has received positive acclaim by those who have used it in practice.

Cost

On the RESNA demographic form, Catherine George wrote that this assessment may be used freely as long as the company name remains on it. No other cost information was included. It can be ordered by calling ATEN at (407) 317-3504.

Sample Questions

Sample from the Assessment for Assistive Technology:
Question I. Positioning and Mobility (Consult with OT or PT)
D. Mobility, If ambulatory:
__Student walks independently within the school and community.
__Student has difficulty walking (e.g., weak, poor balance, unable to carry a four-pound object; i.e., Laptop computer)
__Student is independently mobile with walking aids (i.e., walker, cane, crutches).
__Student depends on others to get from one place to another.

Describe:
*The other domains of the Assessment for Assistive Technology include similar question style and format.

Sample from the Switch Assessment Data Sheet:
On the sheet there are three boxes each requesting the following information:
Student Position, device/toy, device position, switch, switch position, type of switch (single action or joystick), results.

Sample from the System Trial:
Trial Use Across Environments: (there are 3 boxes for 3 settings)
1. Activity/environment:
Student position: System position:
Switch position: Number of targets:
Type of symbol: Size/color:

Narrative:
Following the 3 boxes there are questions relating to the students reaction to the device.

Sample from the System Selection Guide:
This guide is set up in grid format with a long list of system brand names down the vertical side and across the top are system features such as voice output, written output, direct selection, alternate access, visual scanning etc. There is a mark in each box of the grid corresponding to the features that each system has.

Sample from System Comparison Worksheet:
This is another grid with spaces for Device 1 Device 2 and Device 3 where the professional is to put up to three devices they are
considering. Down the left side are features such as access, adaptability, cost, durability, privacy, reliability, etc. The professional can then mark the boxes down each device corresponding to the features it has. The outcome is a visual grid of the features each device has.

Advantages

Assessment for Assistive Technology and its components compiles a comprehensive analysis of assistive technology status and needs. Plus, it promotes a team perspective which includes the family (something many assessments neglect to do). The forms assist in step by step analysis and matching of needs to resources. It also is set up to be timely yet comprehensive. Other advantages include the targeting of the school environment in the assessment format. The pre-formatted grids are extremely helpful in selecting devices. Also, materials for assessments are generally available in most equipped assistive technology programs. Finally, this assessment contains a structured method by which to assess the chosen equipment (another area often overlooked in assessment).

Disadvantages or Limitations

While the Assessment for Assistive Technology is useful and easy to follow, a formal manual would be useful in carrying out the procedures. A manual may also include some information regarding pitfalls and common mistakes in use of the assessment. A sample assessment with final outcome information would also be useful in implementing use of the assessment.

Special Accommodations

There are no identified special accommodations. However, the format of this assessment allows for the information to be gathered in a variety of ways.

Recommendations for Future Use

This assessment may be used to determine if certain assistive technology equipment is consistently supportive or unsupportive for individuals with similar disabilities and/or similar classroom environments. Furthermore, comparisons of successful and unsuccessful school/technology matches can be made. This type of comparison would assist in future decisions regarding assistive technology provision.

CONTACT INFORMATION

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A.T.E.N

ASSESSMENT
FOR ASSISTIVE TECHNOLOGY

The following interdisciplinary work sheet is intended as a guide to help you gain specific information and ideas to assess a student with assistive technology needs.

Student:__________________________D.O.B.:__________________________

School:____

Placement:________________________Grade Level:______________________

Current Therapy Services include (✔all that apply):

☐ OT ☐ Speech ☐ Hearing ☐ Other__________________

☐ PT ☐ Vision ☐ Psychological

Medical history and background information. [Please include: speech diagnosis, medical diagnosis, e.g. seizure history, medications, surgeries (past and scheduled), language spoken at home and school, behavior]:

Team member's Name	Title	Date

Parent's signature____Date__________

Student's signature_______________________________________Date__________

Reason For Assessment (✔all that apply):

☐ Voice Output
☐ Written Output
☐ Computer Access
☐ Other:
☐ Low/Light Tech
☐ Vision/Hearing
☐ Miscellaneous
☐ Interfaces
☐ Mounting
☐ Environmental Control

Considerations [What system/device features will the student need to function well within their environment (home/school/community) with or without the assistance of others (✔all that apply)]:

☐ Portability/Weight of device
☐ Transportation
☐ Care, cleaning and maintenance
☐ Support at: ○ Home ○ School
☐ Classroom work
☐ Use at home w/family and friends
☐ Recreational/community activities
☐ Outdoor use
☐ Safety
☐ Other:

Past History Of Augmentative Communication System Or Assistive Device Use (List augmentative communication systems or assistive devices that have been tried with the student and discuss the results. Be sure to include: gestures/sign language, communication boards, E-tran, electronic/speech output devices, computer, and switch use. Describe the student's access method, how long they were used, and how well they worked for the student.):

System or Device	Results

Notes:

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Rev 8/96

I. Positioning and Mobility (Consult with OT or PT):

A. Joint Stability: ☐ good ☐ fair ☐ poor
If poor, list where:
Does it interfere with ability to use arms/hands functionally?
Describe:

B. Muscle Tone: circle = at rest; check = movement

1. Trunk:	low	high	fluctuating	WNL
2. Arms/hands:	low	high	fluctuating	WNL

C. Reflexes: Circle if they interfere with arm/hand function:
ATNR⇨ R L STNR⇨ Flexion Extension Startle

D. Mobility

If ambulatory:

- ☐ Student walks independently within the school and community.
- ☐ Student has difficulty walking (e.g. weak, poor balance, unable to carry a four-pound object; i.e., Laptop computer).
- ☐ Student is independently mobile with walking aids (i.e. walker, cane, crutches).
- ☐ Student depends on others to get from one place to another.

Describe:

If wheelchair user:

- ☐ Student requires another person to push their wheelchair.
- ☐ Student is learning to propel wheelchair.
- ☐ Student mobilizes manual wheelchair independently:
  ○ for short distances; ○ for long distances.
- ☐ Student has tried a power wheelchair.
- ☐ Student is learning to use a power wheelchair.
- ☐ Student is under consideration for a power w/c evaluation.
- ☐ Student uses a power wheelchair independently.

Describe:

E. Current Classroom Positioning
Describe specific type of classroom chair used:

How does the student appear while sitting in his chair (✔all that apply):

- ☐ Feet dangle - OR - ☐ Feet are firmly supported
- ☐ Slouches - OR - ☐ Sits upright: ☐ with support; ☐ without support
- ☐ Head is well supported - OR - ☐ Head positon needs improvement
- ☐ Student's forearms: ○ are ○ are not adequately supported.
- ☐ Student uses a tray or cutout table for fine motor activities.

- ☐ Student transfers independently from his w/c or chair (this is a consideration for mounting/positioning of a device).
- ☐ Student's seating system (w/c and/or classroom chair) needs modifications.
- ☐ Student's seating system is scheduled for modifications in the near future.
  Date:
- ☐ Student will be getting a new seating system in the near future.
  Date:

List changes that were implemented to provide optimal, functional position/seating for device use:

F. Tactile Defensiveness: ☐ None ☐ Moderate ☐ Excessive
List areas where tactile defensiveness is excessive:

II. **Motor Skills/Access** (Consult with OT or PT):
A. Indicate student's usual means of pointing:
☐ left hand ☐ right hand ☐ single digit; which one?_________
☐ eye ☐ head ☐ foot ☐ other___________________________
Describe:

B. After working on an activity for a period of time (at least 20 minutes):
☐ Is the student fatigued?
☐ Is there an increase in muscle tone?
☐ Is there an increase in stress and frustration?
Describe:

C. Writing and typing abilities:
☐ Student fatigues easily.
☐ Student has difficulty holding a pencil.
☐ Is their writing legible? ☐ yes ☐ no.
☐ Student types using ☐ one digit, ☐ head, ☐ mouth stick.
☐ Student uses an expanded keyboard.

To meet his academic needs, the student's writing or typing is considered:
☐ functional, ☐ not functional.
Describe:

III. Alternate Access

A. Eye-gaze System:

If the student does not have functional hand use, determine his ability to use an effective eye gaze for the selection of items during an activity. Ask the student to choose by eyepointing to the items. Begin with as few as two items (objects or pictures), for the low functioning individual, to eight or 12 items for the higher functioning individual. The items should be spaced at equal distance and placed significantly apart to easily distinguish the eye gaze. After the student looks at the item, have him look at you [which is considered the neutral position (e.g., center space of the eye gaze board)] to indicate his is finished with that selection (e.g. "Look at me. Look at what you want. Look at me.)

Eye control: ☐ good ☐ with effort ☐ no voluntary control
☐ starts from a neutral position when instructed
☐ looks at target long enough to determine choice
☐ other

B. Use of Headpointer/Light Pointer/Infrared:

If the student is unable to adequately access items through his finger pointing abilities and demonstrates good head control, his ability to use a headpointer, light pointer or infrared/ultrasonic indicator should be assessed.

Indicate type of headpointer:______________________________
Control: ☐ good ☐ with effort ☐ no voluntary control
Indicate type of light indicator:______________________________
Control: ☐ good ☐ with effort ☐ no voluntary control
Indicate type of infrared indicator:______________________________
Control: ☐ good ☐ with effort ☐ no voluntary control

C. Switch/Control Interface Operation:

When assessing function for switch operation, allow the student initially to "experiment" with the switch operation, without placing any demands on his performance. Consider the student's need for: auditory and tactile feedback, and adequate surface area to successfully activate the switch. Try at least three different body sites for switch access. Determine accuracy and speed using electronic scanning devices or software programs. Vary scanning speeds and display arrangements, switches, and body sites to determine which is the most effective and efficient for that student. List the switches tried and results, such as: Can the student activate the end device using the switch? Does it effect his vision, concentration, muscle tone, reflex patterns, asymmetries, and position when attempting to operate the switch?

Single action (e.g. plate, grip, head, light touch, shadow, air cushion, wobble,):

Switch	Results

Dual action (e.g. rocker, sip and puff, air cushion):

Switch	Results

Multi action (e.g. joystick, arm slot, wafer, star, penta):

Switch	**Results**

Type of Scan
☐ Linear ☐ Row Column ☐ Top-Bottom Block ☐ Quarter Block
☐ Other:

Scanning Abilities (✓all that apply)	**Yes**	**No**
Does the student demonstrate an understanding of cause-effect programs?		
Is the student able to fixate on the desired location, rather than watch the scanning?		
Is the student able to activate the switchto make the desired selection?		
Needs verbal prompts?		
Needs physical prompts		

Switch Selection

Number of switches:	☐ one ☐ two ☐ multiple
Switch(es) selected	
Body Part	
Placement	
Movement	
Scan Speed	

IV. **Functional Vision** [Functional vision involves the ability to identify, interpret and understand what one sees. Assessing the student's visual skills will help determine the best placement for the materials, the size and number of targets on the display, and the type of symbols/pictures needed.]

A. Visual abilities/Problems (✓all that apply and elaborate when appropriate):
- ☐ passed school vision screening________________________
- ☐ wears glasses vision corrected to________________________
- ☐ visually impaired (blind, cortically blind, low vision)______________
- ☐ other:

B. Can the student visually track an object in ☐ a vertical and ☐ horizontal plane?
☐ Do eyes lose the object at midline; ☐ at the end of a range?
Describe:

C. While a student is looking at an object directly in front of them, are they aware of objects presented ☐ from behind; on the ☐ right and ☐ left sides? (peripheral vision).
Describe:

D. Do the student's eyes:
☐ both work together
☐ turn inward ☐ right or ☐ left or ☐ both
☐ turn outward ☐ right or ☐ left or ☐ both

E. The student's eyes move in the same direction as their head when their head is passively rotated (Doll's Eyes) ☐ to the left; ☐ to the right; ☐ head forward (flexed); ☐ head back (extended).
Describe:

F. Defensive Blink: ☐Yes ☐No
Describe:

G. To determine what size symbol or picture the student can see, present one object to the student. With the object still present, present three pictures and ask the student to point to; or if unable to point, ask them to look at the picture that matches the object. They do not need to name the object. Continue to decrease the size of the picture to determine the smallest picture the student can see without difficulty. Smaller pictures enable the student to have a greater amount of messages on their display.

Symbol or picture size?

☐ 1/2 inch square
☐ 3/4 inch square
☐ 1 inch square
☐ 1 1/2 inch square
☐ 2 inch square
☐ Other:

Number of symbols used on each display: ____________________

H. After working on an activity for a period of time (at least 20 minutes): ☐ Does the student blink obsessively? ☐ Eyes begin to water? ☐ Do they rub their eyes?
Describe:

V. Current Communication Skills (Consult with speech therapist.)

A. Receptive Language (✔all that apply):

During an activity, the student evidences understanding of the following:

☐ Nouns
☐ Adjective
☐ Words, phrases
☐ Pronouns
☐ Preposition
☐ Complete sentences
☐ Verbs
☐ Conjunctions
☐ Telegraphic messages

Describe:

B. Expressive Language (✔all that apply):

Vocal ☐ vocalizations ☐ semi-intelligible speech ☐ yes/no
☐ words, phrases ☐ complete sentences ☐ telegraphic messages

Describe:

Motor ☐ postural changes ☐ facial expressions ☐ eyepointing ☐ yes/no
☐ gestures ☐ signs ☐ types ☐ writes

Describe:

Visual ☐ eye gaze ☐ recognizes picture ☐ matches pictures
☐ uses pictures to communicate ☐ reads

Describe:

Who understands the student's communication attempts:

	Always	Occasionally	Never
Unfamiliar person			
Teacher			
Therapist (s)			
Peers			
Family members			

C. Communication interaction:

	Always	Occasionally	Never
Awareness of partner's attention			
Asks questions			
Repairs communication breakdown			
Initiates communication			

Student has skills or potential to learn but:
☐ is passive ☐ has low affect ☐ is cue dependent ☐ others interpret
☐ others anticipate needs making independent communication unnecessary

D. Speech/Oral Motor Ability (✓all that apply):

1. Informal observation of motor [illegible]
☐ kiss ☐ blow ☐ cough ☐ tongue up/down/sides
☐ can do spontaneously but... ☐ cannot perform on directive

2. Informal observation of motor speech relating to the dysarthrias:
☐ weakness ☐ slowness ☐ incoordination

3. Informal observation of articulation:
☐ substitutions ☐ distortions ☐ omissions
Errors are: ☐ consistent ☐ inconsistent
Describe:

4. Respiration/Phonatory control:
☐ none ☐ mild ☐ moderate ☐ severe
☐ Supports functional speech ☐ Does not support functional speech
Describe:

5. Feeding/Swallowing difficulty? ☐ yes ☐ no
Describe:

6. Potential for intelligible speech:
☐ guarded ☐ fair ☐ good ☐ excellent
Basis (consider persistence of oral motor reflexes, motor speech disorders - apraxia/dysarthria, breath support etc.).
Describe:

VI. Acuity-Auditory Comprehension [Review any reports completed by another professional which describe auditory abilities. (An audiologist may need to be consulted to test specific skills within a sound-proof environment.)]

A. Auditory Abilities/Problems (✓all that apply):

☐ passed school hearing screening____dB level
☐ attends to sounds
☐ discriminates sounds
☐ understands human speech
☐ needs amplification
☐ understands synthesized speech. Please indicate type(s):
__Echo __RealVoice
__Clarity __DECtalk
__SmoothTalker __Digitized (electronically taped)
__Other:______________________________
☐ Other

VII. Device Related Cognitive Skills

A. Means/Ends
☐ Uses a variety of motor schemes to explore objects
☐ Recognizes functional use of objects
Describe:

B. Tool Use

Uses own body to act directly on object:

☐ reaches for object ☐ manipulates objects ☐ points to picture

Describe:

Uses another person as an agent:

☐ looks for help ☐ gives back object ☐ takes hand of adult

Describe:

Uses a tool or part of object to activate an object ☐ button, knobs on toys

Describe:

Uses a tool on a tool ☐ switch to operate a toy

Describe:

C. Classification

1. Groups by function: (food, furniture, grooming, school supplies)
   - a. ☐ forms own groups
   - b. ☐ needs groups started

Describe:

2. Groups by attributes: (by color, size, shape)
   - a. ☐ forms own groups
   - b. ☐ needs groups started

Describe:

E. Needs Prompts: ☐ manual ☐ verbal

Describe

VIII. Symbol System [Communication systems include vocabulary represented by a variety of symbols from real objects through the written word. One student may use photographs, pictures, and words. Another may use photograph's paired with objects. Assess the student's ability to communicate using different symbol systems.]

A. Uses symbols to communicate, (✓all that apply):

☐ Real objects ☐ Photographs ☐ Facsimiles

☐ Line drawings:

○ Black and white/realistic ○ Black and white/abstract

○ Silhouette ○ Colored object

○ Colored/realistic ○ Colored/abstract

○ Background colored

☐ Blissymbolics

☐ Letters

☐ Words: ○ Basic sight ○ Environmental/survival

B. Manual Communication Board Assessment:

Once the size, type, and number of symbols has been determined, assess the student's ability to use a manual system to communicate during a **functional** activity. If the student already uses a communication board, assess whether vocabulary is functional for their communication needs. Medicaid and other third party payers require documentation of manual systems tried.

✓ **All That Apply**	Yes	No
Student selects symbol(s) on board to request objects		
Selects symbol(s) on board to request people		
Selects symbol(s) on board to request action		
Combines action and object symbols		
Makes comments		
Directs others		
Needs verbal prompts		
Needs physical prompts		

Notes:

IX. Summary/Recommendations [Augmentative Communication System or Assistive Device Trials: Describe communication systems or assistive devices that were tried during this assessment period, how long they were used, and why they did or did not work. Discuss results, include: gestures, sign language, communication boards, E-trans, VEPs, electronic devices, computer use, and/or switch use. Include how the student accessed the system or device.].

System or Device	**Results**

Narrative Summary:
(System selection):___________________________
is appropriate because (student's name)___________________________
•can **directly** access it using (specialized equipment; i.e. headpointer)___________
___________ and/or (body part)___________ ☐ right ☐ left
with system/display positioned at student's ☐ right ☐ left ☐ midline; at a___angle

- OR -

•needs **alternate** access using: ☐ scanning ☐ encoding
with (switch type) ___________________(body part)________ ☐ right ☐ left
and switch positioned to student's ☐ right ☐ left ☐ midline; at a___angle.
Mounting equipment needed for:
(switch)___________________________
(system)___________________________
Will communicate using:
☐ objects ☐ photographs ☐ facsimiles ☐ picture symbols (type)___________
☐ letters ☐ numbers ☐ words ☐ phrases ☐ letter codes
Display includes:
Number of messages available_____ Number used_____ Picture size_____
☐ checkerboard ☐ alternate rows ☐ alternate columns
☐ silhouette ☐ black & white ☐ color enhanced ☐ background colored
☐ Situational display ☐ Categoric organization ☐ Grammatic organization
Output: ☐ spoken ☐ visual ☐ LCD ☐ monitor ☐ hard copy ☐ printer
List software (if appropriate) required to utilize system:___________
Describe any cables or additional peripherals needed:___________

Notes:

Describe the student's needs and how the specific features of the recommended system meet those needs:

WORKSHEET REFERENCES

- Pennsylvania Assistive Technology Center (1993). PATC Equipment Acquisition Assessment Guide. Revised/5/12/93, Harrisburg, PA.
- Systematic Investigation of the Nonspeaking Client (SINC), c1984/1991. Bristow, D.C. and Fristoe, M.W., and Pickering, G.L.

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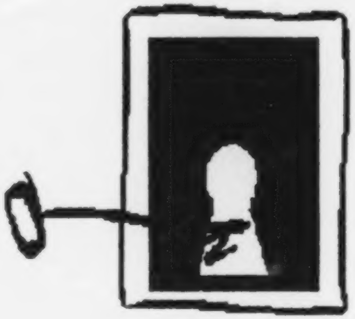

System Selection Guide

ATEN Quick Reference System Selection Guide

This guide was developed to assist in the selection of systems for trial use with students during the evaluation process. We chose the word system over device because all systems are not electronic. Manual systems are included along with electronic equipment as each serves its own purpose. Dividing the systems into categories was not an easy task as some perform multiple functions. We came up with the following:

- Voice Output
- Low/Light Tech
- Written Output

Some items appear under more than one heading. Far from inclusive, this information is intended to give you a place to start.

As you initiate the evaluation process, you will determine what system characteristics-# of targets; voice/written output; direct select/alternate access, are appropriate for the specific student. This guide will lead you to choose a few systems to try. For additional information you may then refer to the Assistive Technology Device Data information.

Equipment Name	Voice Output	WrittenOutput	Direct selection	Alternate Access	Visual Scanning	Auditory Scanning	Alpha Numerics	Picture/icon based	Max. Number of Targets	Computer Interface	ATEN STI can
ACTION VOICE	DIG		X	X	X	X		X	10		X
AIPS WOLF	SYN		X	X				X	9		X
ALPHA TALKER	DIG		X	X	X	X	X	X	32	X	X
ALPHASMART		+	X				X		KYBD	X	X
ATTAINMENT 15 TALK	DIG		X					X	15		X
ATTAINMENT 5 TALK	DIG		X					X	5		X
BIGMACK	DIG		X	X				X	1		X
BLACK HAWK	DIG		X					X	20		X
BRAILLE 'N SPEAK	SYN		X				X		7	X	
CANON 7P		HC	X	X	X		X	X	KYBD		X
CANON - 7S	SYN	HC	X	X	X		X	X	KYBD		X
CARRY COM/AURORA	DEC	+	X	X	X		X		KEBD		
CHEAP TALK 4 SCAN	DIG			X	X			X	4		X
CHEAP TALK 4/8	DIG		X	X				X	4/8		X
COMMUNICLOCK				X	X		X	X	12		X

Key:
DEC = Dec Talk
HC = Hard copy
SYN = Synthetic Speech
+ = Option available separately
DIG = Digitized speech
LCD = Liquid Crystal Display

Equipment Name	Voice Output	WrittenOutput	Direct selection	Alternate Access	Visual Scanning	Auditory Scanning	Alpha Numerics	Picture/icon based	Max. Number of Targets	Computer Interface	ATEN STLoan
COMMUNILIGHT				X	X		X	X	24		
COMPANION 401	DIG		X					X	4		X
CRESPEAKER	SYN		X				X		KYBD		X
CRESTALK		LCD	X				X		KYBD		X
DELTATALKER	DIG/DEC		X	X	X	X	X	X	104	X	X
DIAL SCAN				X	X		X	X			X
DIGIVOX	DIG	LCD	X	X	X	X	X	X	48		X
DISCOVER SCREEN	+	+	X	X			X	X		X	X
DREAMWRITER		+	X				X		KYBD	X	X
DYNAVOX	DEC	LCD/ +HC	X	X	X	X	X	X		X	X
EASYTALK	DIG		X	X	X			X	40		X
FINGERFONICS	SYN		X				X		KYBD		
FRANKLIN LM	SYN	LCD	X				X		KYBD		X
HAWK	DIG		X					X	9		X
HOLLYCOM	DIG		X	X	X			X	32		X

Key:

DEC = Dec Talk HC = Hard copy SYN = Synthetic Speech + = Option available separately

DIG = Digitized speech LCD = Liquid Crystal Display

Equipment Name	Voice Output	WrittenOutput	Direct selection	Alternate Access	Visual Scanning	Auditory Scanning	Alpha Numerics	Picture/Icon based	Max. Number of Targets	Computer Interface	ATEN STI uan
HP DESKWRITER		HC								X	X
INTELLIKEYS	+	+	X	X			X	X		X	X
KE:NX ON:BOARD		+	X	X			X	X	KYBD	X	X
KEY LARGO		+	X	X			X	X		X	X
KEYTIME			X				X		KYBD	X	X
LEXBOOK		LCD	X				X		KYBD	X	X
LIBERATOR	DEC	LCD/HC	X	X	X	X	X	X	128	X	X
LIGHT BOARD 32			X	X	X		X	X	32	X	
LIGHTWRITER SL30	SYN	LCD/ +HC	X				X		48	X	X
LIGHTWRITER SL8	SYN	LCD/ +HC		X	X		X		48	X	X
LINK	SYN	LCD	X				X		KYBD	X	X
LYNX	DIG		X	X	X	X		X	4		X
MACAW II	DIG		X					X	32		X
MACAW SC	DIG		X	X	X	X		X	32		X
MCB			X				X	X			

Key:

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Equipment Name	Voice Output	WrittenOutput	Direct selection	Alternate Access	Visual Scanning	Auditory Scanning	Alpha Numerics	Picture/Icon based	Max. Number of Targets	Computer Interface	ATEN STI [illegible]
MESSAGE MATE	DIG		X	X	X			X	20		X
MESSENGER	DIG		X	X				X	1		X
MINI KEYBOARD		+	X	X			X		KYBD	X	X
MINI TALK. CARD REA.	DIG		X					X			X
PARROT JK	DIG		X					X	16		X
PC5		LCD	X				X		KYBD	X	X
PEACE KEYPER	SYN	LCD	X				X		KYBD		X
POWER PAD			X				X	X		X	X
PWRBK SP. DYNAMIC	MAC	LCD/ +HC	X	+	X		X	X		X	X
QUAD TALK				X	X				4		X
READING EDGE	DEC	+	X			X				X	
SAY IT ALL PLUS	DEC	LCD/ +HC	X				X	X	47	X	
SAY IT ROCKING	DIG		X					X	2		X
SAY IT SIMPLY PLUS	DEC	+HC	X				X	X	144	X	X
SCAN IT ALL	SYN	LCD/ +HC	X	X	X		X	X	96	X	

Key:

DEC = Dec Talk	HC = Hard copy	SYN = Synthetic Speech	+ = Option available separately
DIG = Digitized speech	LCD = Liquid Crystal Display		

Equipment Name	Voice Output	WrittenOutput	Direct selection	Alternate Access	Visual Scanning	Auditory Scanning	Alpha Numerics	Picture/icon based	Max. Number of Targets	Computer Interface	ATEN STI uan
SCAN MATE 4	DIG		X	X	X			X	4		X
SEQUEN. SCANNER				X	X			X	4		
SOUND/PICTURE BD.	DIG			X	X	X		X	4		X
SPEAK A TAG	DIG		X						1		X
SPEAK EASY	DIG		X	X		X		X	12		X
STARWRITER		LCD/ +HC	X				X		KYBD		X
STEEPER				X	X			X	16		
STEEPER W/ PARROT	DIG		X					X	16		
SUPER HAWK	DIG	LCD	X	X		X		X	72		X
SWITCH BOARD				X	X		X	X	49		
SYSTEM 2000	DEC/DIG	+	X	X	X	X		X	128	X	X
TALK BACK 3	DIG		X	X				X	3		X
TAPE LOOP	DIG			X		X					X
TOUCH WINDOW			X							X	X
TOY SELECTION BD				X	X	X		X	3		

Key:
DEC = Dec Talk
HC = Hard copy
SYN = Synthetic Speech
+ = Option available separately
DIG = Digitized speech
LCD = Liquid Crystal Display

Equipment Name	Voice Output	WrittenOutput	Direct selection	Alternate Access	Visual Scanning	Auditory Scanning	Alpha Numerics	Picture/Icon based	Max. Number of Targets	Computer Interface	ATEN STI uan
TWIN TALK	DIG		X					X	2		X
TYPESTAR 220		LCD/ +HC	X				X		KYBD		X
VEP				X			X	X			
VERSA SCAN				X	X		X	X	16		
VOCAL ASSISTANT	DIG		X	X	X			X	16		X
VOICE PAL	DIG			X				X	5		X
VOICE PAL PLUS	DIG		X	X	X	X		X	~~10~~		X
WALKER TALKER	DIG		X					X	16		
WHISPER WOLF	SYN		X	X		X		X	32		X
WINDOWS/EZ KEYS	DIG/SYN		X	X	X		X	X	KYBD	X	
WINDOWS/GUS	DIG/SYN	+	X	X	X		X	X	72	X	X
WOLF	SYN		X					X	32		X

254

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255

Key:
DEC = Dec Talk
DIG = Digitized speech
HC = Hard copy
LCD = Liquid Crystal Display
SYN = Synthetic Speech
+ = Option available separately

System Comparison Worksheet

FEATURE	DEVICE #1	DEVICE #2	DEVICE #3
Access			
Adaptability			
Asthetics			
Cost			
Display Permanence			
Durability			
Ease of Learning - user			
Ease of Learning - rec. -			
Ease of Setup			
Environmental Control Functions			
Expandability			
Interdevice compatability			
Intelligibility			
Mirrors Communication Style of user and family			
Number of targets			
Output			
Physical construction			
Privacy			
Portability			
Reflective of cultural diversity			
Reliability			
Rental available/ATEN loan			
Representational System			
Speed/Rate			
Training available			
User Independence			
Vocabulary Manipulation			
Vocabulary Size			

DRAFT

ATEN 2/95 MKS

System Trial

A.T.E.N

Student Name: ______________________ Trial period from: _____ to: _____
System Components: ______________________________________
Selection Mode: ______________________________________
Adjustments/Accommodations for use: ______________________________

System Operations (learns and understands functions):

- ☐ Able to turn on/off
- ☐ Volume control
- ☐ Changes levels/themes/overlays -
- ☐ Understands speech output
- ☐ Can program own messages
- ☐ Other:

Trial Use Across Environments:

1. Activity/Environment:
Student position:
Switch position:
Type of symbol:
System position:
Number of targets:
Size/Color:

Narrative:

2. Activity/Environment:
Student position:
Switch position:
Type of symbol:
System position:
Number of targets:
Size/Color:

Narrative:

3. Activity/Environment:

Student position:

Switch position:

Type of symbol:

System position:

Number of targets:

Size/Color:

Narrative:

Student Reaction (check all that apply):

☐ Uses appropriately
☐ Creates message
☐ Repairs
☐ Destructive
☐ Requests system
☐ Confirms
☐ Switches systems
☐ Initiates message
☐ Expands
☐ System importance

Describe how system is transported:

Describe student's attitude toward system:

Describe parent's attitude toward system:

Describe peer acceptance of system:

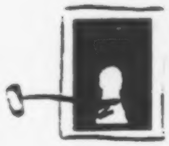
Strengths and weaknesses of trial system:

Strengths:
-
-
-

Weaknesses:
-
-
-

Recommendations:

Switch Assessment Data Sheet



Student:

Date:

Recorder:

Examiner:

Student Position	
Device/Toy	
Device Position	
Switch	
Switch Position	
Type of Switch (single action or joystick)	
Results	

Student Position	
Device/Toy	
Device Position	
Switch	
Switch Position	
Type of Switch (single action or joystick)	
Results	

Student Position	
Device/Toy	
Device Position	
Switch	
Switch Position	
Type of Switch (single action or joystick)	
Results	

Instrument: **Technology Resources for Education Center**
Student Technology Consultation Service (1997)

Authored by: Board of Cooperative Educational Services, Special Education Division, Capital Region
Submitted by David Grapka.

Reviewer(s) Dave Edyburn, Ph.D.
Michelle S.K. Silverman, OTR
University of Wisconsin - Milwaukee

Format of Instrument

A review of the manual for the Student Technology Consultation Service reveals that it is designed as a procedural manual for this particular special education cooperative. It is a complete and helpful guide for parents and assistive technology providers concerning the process of assistive technology consultation. It includes examples of administrative forms, letters to the school IEP team, and student background data.

Domain(s)

This particular tool does not lend itself to identifying specific domains. It is general in nature and describes the specific processes for assistive technology assessment in the Board of Cooperative Educational Services (BOCES), Special Education Division, Capital Region.

Purpose

The purpose of the Student Technology Consultation Service is described as the process of matching the needs of a student with a disability to an appropriate assistive device and/or service (p. 1 of Technology Resources for Education Manual).

Population

The manual states that any public or private School in Albany, Schoharie, Schenectady and Saratoga Counties may participate in this service (p.2 of Technology Resources for Education Manual). Although this particular manual is specific to the BOCES Special Education Division, the procedures in the manual may be generalized to other school districts nationwide.

Setting of Administration

The procedures in the manual indicate that the process includes an interview at the center. The next procedure indicated is an observation of the student at the school. If further consultation is needed, this may completed at the Technology Resources for Education Center Lab or at the child's school if enough equipment is available at the school.

Materials and Tools Required

For successful consultation, the specialist would need access to a lab or room where they had access to assistive technology equipment, software and devices. Furthermore, the manual would be necessary to complete the consultation within the specified guidelines.

Method

The following steps summarize information compiled in the Student Technology Consultation Service manual.(Technology Resources for Education Center, 1997).

1) Referral is made. The referral procedures differ depending on whether or not the student is within the BOCES system. A referral form is filled out including the students IEP and a video tape of the child in the classroom if possible. The form is reviewed by a supervisor and any necessary changes are requested along with any needed information.

2) Office procedures are outlined including creating a file with completed referral forms. The folder is reviewed by an AT coordinator and is assigned a specialist according to priority of need.

3) The intake process is completed by the assistive technology specialist (ATS). The will interviews the referral source and recommends either an observation to determine appropriate alternative recommendations and or schedules a student technology consultation (STC).

*If a consultation is recommended:
4) The ATS schedules a date and location.

5) The ATS researches possible AT solutions and completes the Lab Work order form. That form is passed on the Technology Coordinator to arrange for the necessary equipment to be present on the day of the consultation.

6) At the consultation, a) a review of the TREs process with the student and education team is completed, b) consensus of the purpose of the STC and the students goals is reached and c) technology solutions are explored with the student.

7) All information is documented in an STC report.

8) Finally, the report is filed and billing is completed.

9) Follow up is required 4-6 months after the consultation is complete. A phone call to inquire as to the level of satisfaction with the process is done. Further follow up can be done in the form of reevaluation, training, etc.

Types of Data

a. Reporting is completed by a combination of previous IEPs, ssessments and interviews. Formal and informal testing may be included in the assessment.
b. Performance data of device (engineering) Not applicable
c. User performance - is looked at on a level of disability (person function) with some social participation.

Cost

The resource manual is free to those in the BOCES Cooperative. The manual states that an $82.00/hour rate will be charged to perform the consultation. The manual notes that the consultation may take from 4-8 hours.

Sample Questions

Sample question from the Student Background form:
Academic Levels:
Briefly describe the students current skills/grade levels for eading, spelling, writing and math.

There are five other domains noted including cognitive abilities, motoric abilities, sensory abilities, communication skills, behavioral factors, and technology. These questions are in similar format.

Accommodations

None discussed. However, this manual is designed as a structure for comprehensive technology assessment. The ATS has some discretion in deciding how the structure of the actual student evaluation will be conducted. She may choose a variety of assessment tools to meet the needs of the student.

Interpretation of Data (process)

This manual describes the process for determining and implementing assistive technology devices. Interpretation of assessment results is to be formally shared with the child's multidisciplinary team. The ATS is also to provide ordering information for the recommended assistive technology devices to the team and assist in determining who should order the equipment.

Reported Reliability and Validity

No reliability or validity studies are reported on the Student Technology Consultation Service manual.

Advantages

Student Technology Consultation Service manual compiles a difficult process into an easy to read step-by-step format. In addition, it promotes a team perspective, and helps to ensure that all students in the BOCES district receive equal attention in assistive technology provision. The instrument manual assists in step by step consideration of the needs. The manual is excellent for consistent administrative response to each case.

Disadvantages or Limitations

This manual is an excellent resource however it may not generalizable to cooperative agencies outside of the NY BOCES. It may have stronger exportability if it were designed using the same process but with more generic forms and procedure names. The process of assessment is described well and with much detail. However, the process of ordering and implementing the device is less clear.

Recommendations for Future Use

A strong need in the area of assistive technology includes not only professional training and protocol, but administrative training. This manual may be adapted for use in the future to be more exportable to other special education cooperatives. It may also be adapted to serve hospitals and free standing assistive technology sites. Furthermore, it may be used in developing a training workshop for administrators involved in assistive technology assessment and provision.

CONTACT INFORMATION

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Technology Resources for Education Center

Student Technology Consultation Service

Draft - April 1997

Capital Region BOCES
Maywood School - TRE Center
1979 Central Avenue
Albany, NY 12205

Student Technology Consultation Service

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Revised 04/03/97

GENERAL DESCRIPTION

A Student Technology Consultation (STC) is a process of matching the needs of a student with a disability to an appropriate assistive device and/or service. The Technology Resources for Education Center welcomes and encourages parent participation in all aspects of this process. Assistive technology may include a computer, software, assistive device(s) - low tech. & high tech., and communication aid(s). A referral is made to the TRE Center and additional student data is collected. The data is reviewed by a qualified Assistive Technology Specialist(s) and is used to plan a consultation session with the student and his/her education team.

Written recommendations are shared with the Chairperson of the Committee on Special Education (CSE), or the Chairperson of the Committee on Preschool Special Education (CPSE) for distribution to parents and the appropriate staff. The recommendations provide CSE/CPSE team members and parents with many options for using computer assisted and/or augmentative communication technologies to address the student's individual learning styles, to meet and enhance their instructional needs, and to help attain greater access to the curriculum. A variety of follow-up supports are then provided to the child's education team on an as needed basis.

The term **"Consultation"** is used rather than "assessment or evaluation." "Assessment and evaluation" connotes finality, while **"consultation"** connotes a holistic approach to empower schools and families to reach consensus on solutions to help students with disabilities succeed in the regular or special education setting.

SERVICE GOALS & OBJECTIVES

The **goals** of this service are to ensure that the Technology Resources for Education (T.R.E.) Center of the Capital Region BOCES' Special Education Division assists school districts to:

1. Acquire and maintain a leadership role as a provider of quality special education services which meet existing Federal and state policies for how technology can enhance the education of all students with disabilities in the least restrictive environment (LRE).
2. Provide regular and special educators and parents with instruction and/or technical assistance to improve their competencies in using technology to help students with disabilities achieve instructional goals in State syllabi.

The **objectives** of this service are:

1. Provide referred students w/ disabilities a Technology Consultation to recommend an effective match between assistive technologies and their instructional needs.
2. Help parents and educators work together to use computer and augmentative communication technologies to help the student attain greater access to curriculum, learn and communicate in the least restrictive environment, and meet goals set for the student by his/her parents, educators, or the student him/herself.

3. Provide parents and educators with information about what technology resources may be best for what disability and operate an assistive technology library of software, hardware, and resources.
4. Maintain databases of hardware, software, and assistive devices to be used for technology consultations, and provide training and appropriate resources for direct student use.
5. Collaborate with area special education and technology service providers to deliver an assortment of services related to technology consultations to help schools meet the needs of their students with disabilities.

ELIGIBILITY FOR SERVICES

Any public or private school in Albany, Schoharie, Schenectady and Saratoga Counties may participate in this service. The service is available to all special education students who are placed in a Capital Region BOCES program, to all special education students who are currently served in the local district, and to all students with special needs not yet classified.

SERVICE COST

A rate of $82.00 per hour will be charged to perform each student technology consultation. Due to varying levels of student needs, time to complete an STC ranges from 4 - 8 hours.

SERVICES FOR STUDENTS OUTSIDE OF CAPITAL REGION BOCES' AREA

The TRE Center's STC service can be provided to students with disabilities outside of Capital Region BOCES' district. TRE's service may be obtained via a **cross contract** with the Capital Region BOCES Special Education Division. The process is as follows:

1. The CSE/CPSE Chairperson takes the request to their School District Superintendent, who contacts his/her BOCES District Superintendent via letter or telephone.

2. The BOCES District Superintendent requests the service from Capital Region BOCES via letter or telephone. The Capital Region BOCES' Assistant District Superintendent, in turn, sends the **cross contract form** for the appropriate signatures.

For more information, please call Sandy Shatley, Capital Region BOCES, Central Administration, (518) 456-9223 or (518) 456-9884.

STC REFERRAL PROCEDURES

These procedures are designed to ensure that districts receive a quality, timely service. The TRE Center will provide districts with appropriate, reasonable recommendations that address the needs of their student and do so within a 30 day period. It is essential therefore, to maintain a flow of accurate information between the TRE Center, the District CSE/CPSE Chairperson, the appropriate BOCES Supervisor, and other staff as appropriate.

A referral must be requested by the CSE/CPSE Chairperson, authorized representative, or Capital Region BOCES' supervisor. If a team member or parent would like to have a technology consultation performed, they must make the request through the CSE/CPSE Chairperson, or if a BOCES Student, they must make the request through a BOCES supervisor. When a referral is requested, the following materials will be sent with a letter by the AT Coordinator:

- Referral form with instructions for NON-BOCES Students or BOCES Students, and
- Cross Contract procedure, if the school district is in another BOCES' area.

A. Referral Process for NON - BOCES Students

1. CSE/CPSE or authorized representative contacts the TRE Center for Referral form.
2. Student's education team completes referral form and appoints a contact person. The team attaches the student's IEP (if available), include a video tape of the student in the classroom (optional), and/or other documentation which may help TRE staff get a clear picture of the student's present and future needs and goals.
3. Student's education team sends completed **referral form** to the CSE/CPSE Chairperson or designee for approval and his/her signature.
4. CSE/CPSE or designee sends referral form to the TRE Center, ATTN. Debra McGarvey, Assistive Technology Coordinator.

B. Referral Process for BOCES Students

I. Pre-Referral Activities

A TRE referral is considered only after BOCES teams have tried other BOCES resources. The team then documents these activities on the referral form or a separate sheet of paper with student's name. Pre-referral activities include:

- TRE Staff Workshops
- Vista In-service
- Borrowing appropriate software
- Consultation with other team members and/or division resources

II. Referral

1. BOCES Supervisor, CSE/CPSE, or authorized representative contacts the TRE Center for Referral.

2. Student's education team (including parents/guardians) completes referral form and appoints a contact person. They also attach the student's IEP (if available), include a video tape of the student in the classroom (optional), and/or other documentation which may help TRE staff get a clear picture of the student's present and future needs and goals.

3. Student's education team sends completed referral form to the **BOCES Supervisor** for review.

4. The **BOCES Supervisor will either**: (1) Return the form to the BOCES Team for additional information or services; or, (2) sign the form, and forward it to the Home School District's CSE/CPSE Chairperson or designee.

5. The **CSE/CPSE or designee will:** (1) Review the referral, add additional information or comments, and sign the form, if approved; (2) Keep a copy and return the original of this form to the BOCES Supervisor with signature.

6. The BOCES Supervisor will send it to TRE Center, ATTN. Debra McGarvey, Assistive Technology Coordinator.

TRE'S OFFICE PROCEDURES FOR PROCESSING AN STC

Step 1: (Completed by the TRE secretary) Referral is stamped with date received. A student folder is created and given to the AT Coordinator. The folder includes a file label with the student's name (last name, first name); an Office Activity Log, stapled on the left side of the folder; a Consultant Activity Log; and the received referral and attached materials.

Step 2: The student folder is reviewed by the AT Coordinator to determine primary need and assign to an Assistive Technology Specialist according to that need. The AT Specialist determines date of contact for additional information, observation or consultation. A letter will be sent to the CSE/CPSE or authorized representative for confirmation.

TRE'S CASE MANAGEMENT ACTIVITIES

*** ***The Assistive Technology Specialist is responsible for all case management activities.***

Step 3: Intake

Assistive Technology Specialist interviews referral source/education team & decides to either:

A. Schedule an observation to determine appropriate alternative recommendations and/or;

B. Schedule an STC.

If A, then Alternate Recommendations may include:

(a) Recommendations for team intervention by local district staff;
(b) Software recommendations;
(c) Inservice training/demonstrations for local staff;
(d) Recommendations on how to use existing technologies and assistive devices in student's classroom (these are also part of the STC recommendations);
(e) Request a vocational assessment; and/or
(f) Referral for a consultation at another agency.

If an STC is not recommended, the alternative recommendations are summarized in writing.

Consultation

Step 4: If an STC is recommended, the A.T. Specialist schedules a date and decides on location[1] (student's school or at the TRE Lab) with the student's educational team contact person. It is the contact person's responsibility to coordinate the STC date with the other education team members[2]. AT Specialist must schedule STC date & location on TRE Calendar.

Step 5: AT Specialist research possible software and hardware solutions, complete Lab work order form (for on-site or off-site), and gives to Technology Coordinator to reserve equipment. It should be filled out even if there is no TRE equipment involved, since the Technology Coordinator may need to move equipment to provide space for service on that particular date.

Step 6: At the consultation, 1) review TRE's process with student and education team (from time of consultation to sending recommendations to CSE/CPSE Chairperson), 2) facilitate consensus on the purpose of the STC and student's present/future goals, and 3) explore technology solutions with student.

Step 7: Document all information (e.g., interviews, observations, meetings). The STC Report includes:

A. Brief overview (student's background, present and future needs and goals, interview(s) information)
B. Alternate actions (if applicable)
C. Consultation Summary (observations, equipment tried and results, and post-consultation meeting information)
D. Recommendations (if possible, provide three levels of options with the pros and cons of each which include ways the district's existing technology is or is not appropriate)
E. Include statement regarding loan or trial use of high AT devices/software prior to purchase
F. Resources (information supporting recommendations - e.g., vendor catalogs, product descriptions, articles, training available) from TRE and other sources
G. Possible follow-up activities with cost
H. Summary of Report
I. Signature of A.T. Specialist

Step 8: Give STC report & student folder to A.T. Coordinator or Project Coordinator to review. who returns it to A.T. Specialist for finalization.

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[1] To have the consultation held at the student's school, the school must provide the appropriate standard equipment. The ATS provides the assistive devices and/or software consultation.

[2] The student, education team should be present at the consultation. If one or more members can not attend, they should express their concern/questions either in writing or in a meeting the team's contact person prior to the consultation.

Office Procedures for a Completed Consultation

Step 9: A.T. Specialist will give signed report and CSE form letter to secretary to make copies, file copies in student folder, mail originals to appropriate addressee. AT Specialist will complete billing information on the Office Activity Log in the student folder. The secretary will then give completed student folder to AT Coordinator.

Step 10: A.T. Coordinator will review billing information and give to Project Coordinator for approval. Billing will then be given to TRE secretary to be processed via Central Office.

Step 11: AT Specialist contacts the CSE/CPSE via phone 4 to 6 months after sending the report to determine level of CSE/CPSE, teacher, and parent satisfaction with the process and if any further information/services are needed.

Follow-up activities can include:

- attending CSE/CPSE meetings;
- technical support or trouble shooting via phone, on-site at TRE Lab;
- training;
- observation of student using AT (on loan) prior to finalizing recommendation(s) - e.g., AAC devices, Dragon Dictate;
- curriculum integration;
- "re-evaluation" - providing information on device/software upgrades that could assist the student even more so than that recommended and/or new products which would be appropriate for the student;
- additional resources (other consultants in area, available funding streams); and/or
- classroom support.

OFFICE FORMS

TECHNOLOGY RESOURCES FOR EDUCATION (TRE) CENTER

Albany-Schoharie-Schenectady-Saratoga BOCES Special Education Division
Maywood School, 1979 Central Avenue
Albany, NY 12205

Tel.: (518) 456-9290; In NY: (800) 248-9873; FAX: (518) 456-9057

STUDENT TECHNOLOGY CONSULTATION REFERRAL FORM
INSTRUCTIONS

For Non-BOCES Students:

1. **Please complete this form and appoint a contact person.** Type or print legibly and firmly with a dark pen.
2. Please obtain **the CSE/CPSE chairperson or authorized representative's signature** for approval. This signature is required for this referral to be processed.
3. Home school district keeps a copy and returns the original of this form to the TRE Center with signature.

For students placed in a BOCES program:

1. **Please complete this form and appoint a contact person.** Type or print legibly and firmly with a dark pen.
2. Make a copy and return the original of this form to your BOCES Supervisor for their review.
3. **The BOCES Supervisor will either:** (1) Return the form to the BOCES Team for additional information or services; or, (2) sign the form, and forward it form to the home school district's CSE/CPSE Chair, or designee.
4. **The CSE/CPSE Chair or their designee will:** (1) Review this referral, add additional information or comments, and sign the form, if approved; (2) Keep a copy and return the original of this form to the BOCES Supervisor with signature.
5. The **BOCES Supervisor** will send it to TRE Center.

REFERRAL REVIEW: This referral was reviewed by:

Name of **Team Contact Person**/Position	Signature / Date / Phone # / Best Time to be Called
BOCES Supervisor (If student is BOCES student)	Signature / Date
Other	Signature/ Date

****I understand that this service I am requesting will be billed at the hourly rate of $82.00.**

CSE/CPSE Chair or other authorized representative (required)	Signature (required)/ Date

12/96

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IV. Student Background

Please describe the student's current level of functioning in the areas below. Please attach additional sheet(s) if necessary. If the student's IEP provides the information requested on this form, please state "refer to IEP" and attach a copy.

A. Cognitive abilities:

Briefly describe the student's current cognitive skills/abilities for the following: cause & effect relationships, matching, identification, categorization, sequencing, association, memory, comprehension, and learning style.

B. Academic levels:

Briefly describe the student's current skills/grade levels for reading, spelling, writing, and math.

C. Motoric abilities:

Briefly describe the student's current physical abilities. Include mobility (walks independently, uses walker, uses wheelchair), range of motion, strength, fatigue level, tactile sensitivity, and fine and gross motor abilities.

D. Sensory abilities:

Briefly describe the student's current visual and hearing abilities. For vision, include acuity, perception, field of vision and if the student wears glasses. For hearing, include auditory acuity, perception and use of any devices (e.g., hearing aids).

BOARD OF COOPERATIVE
EDUCATIONAL SERVICES

SPECIAL EDUCATION DIVISION

979 Central Avenue
Albany, NY 12205
(518) 456-9064 Fax (518) 456-9057

Capital
REGION
BOCES
Albany
Schoharie
Schenectady
Saratoga

Albany-Schoharie-Schenectady-Saratoga BOCES

Cross Contract Process

If the school is **a component district** of a BOCES in New York (with the exception of Capital Region BOCES):

1) The educational team/member takes the request for services to their CSE Chairperson.

2) The CSE Chairperson takes the request to their School District Superintendent, who contacts his/her BOCES District Superintendent via letter or telephone.

3) The BOCES District Superintendent requests the service from Capital Region BOCES via letter or telephone. The Capital Region BOCES Assistant District Superintendent, in turn, sends the cross contract form for the appropriate signatures.

For more information, please call Sandra Shatley, Capital Region BOCES, Central Administration, (518) 456-9223 or (518) 456-9884.

12/13/96

An Equal Opportunity Employer

Student Technology Consultation
OFFICE ACTIVITY LOG

udent:______________________________ A.T. Consultant:______________________________

ACTIVITY	DATE	TIME	INITIAL
Receive STC referral forms & make student folder			
Log student's name in CM dbase			
Review & assign A.T. Specialist			
Send referral confirmation letter to CSE or Admin.			
Call/write STC confirm. letter to contact & CSE.			
Print/copy/mail STC Report			
Invoice for Services to CSE, admin.			
Send STC follow-up letter to CSE			
Other:______________________________			
Other:______________________________			

* * *

FOR BILLING ONLY

ACTIVITY	DATE (S)	HRS.	COST
Process referral forms (incl. meetings)			
Interview referral source & ed team			
Conduct Student Observation on-site/video			
Plan & Schedule STC (incl. STC preparation)			
Conduct Technology Consultation & hold Post Consultation Meeting			
Research & Write Recommendations			
Follow-up:______________________________			
Medicaid: ______________________________			
Other:______________________________			

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Student Technology Consultation

CONSULTANT ACTIVITY LOG

Student:____________________________________ Page______

Document all activities including: telephone conversations (vendors, staff), observations, planning STCs, meetings, staff development, student activities, products explored, research, etc.

DATE	ACTIVITY	TIME (Hrs/Mins)	Consult. Init.

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CSE Name, Chairperson
Committee on Special Education
School District
Street Address
City/Town/Village, NY Zip

Date

Dear CSE's Name:

This is to confirm that the TRE Center has received a Technology Consultation referral for (Student name)______________. The Assistive Technology Specialist assigned is __________________. He/She will be contacting (Primary contact person)________ and/or yourself for additional information, and to schedule a date for the consultation.

We appreciate the opportunity to provide assistive technology services to your student. We look forward to working with you and your staff.

If you have questions about the consultation, please feel free to give me a call at (518) 456-9290.

Sincerely,

Debra McGarvey
Assistive Technology Coordinator
Technology Resources for Education Center

cc. Student File

Contact Name Date
Address

Dear ____________________:

This letter is to confirm the date, time, & place of the Technology Consultation for ____________________. If you need to cancel this appointment, please contact ____________________ ***no later than one week prior to the consultation at (518) 456-9290***.

Date:
Time:
Place:
Who should attend:

If you have further questions, please feel free to call me at (518) 456-9290. I look forward to meeting each of you.

Sincerely,

c. CSE Chairperson
Student File

Enclosure

Instrument: **Assistive Technology Evaluation Questionnaires**

Author(s): Melanie Fried-Oken
OHSU, CDRC

Reviewer: Sue Mistrett

Format of Instrument

Three questionnaires for completion by referral sources: parent/caregiver, school team and clinical staff.

Domain(s)

Consumer Performance; Clinical; Special Education.

Purpose

Completed forms provide background information on the potential AT user from 2-3 sources. Information focuses on the person's abilities, limitations, and current adaptations or AT use. The tool is used by a multi-disciplinary assessment technology team at a child development and rehabilitation center.

Population

School aged children with a range of disabilities and adults participating in the rehabilitation center treatment program.

Setting of Administration: Center- based

Materials and Tools Required

Student information is collected via the Parent/Caregiver Questionnaire and the School Questionnaire. Adult information is collected on the Assistive Technology Evaluation Questionnaire. A Biographical Information Sketch is completed by the client.

Method

Questionnaires are sent to appropriate sources upon referral. Upon return, an appointment for an AT evaluation is scheduled.

Types of Data:

a. Reporting: Reported by various referral sources
b. Performance data of device (engineering) N/A
c. User performance - Questions are asked regarding communication or motor skills, as well as means used for academic areas, e.g., writing, reading, and daily living skills functioning levels.
d. Environmental Resources N/A

Interpretation of Data (process): Substantive qualitative data gathered.

Reported Reliability and Validity: None at this time.

Cost N/A

Sample Questions

Does the student read? What level?

What are the student's favorite books?

Are any adaptation required for the student to read independently, e.g., enlarged text, page turners?

Advantages

This tool looks to collect information from several sources on the individual's current skill levels, equipment use and interests. Each respondent includes questions for the AT Team. Collection of information from several sources can result in a wider perspective of potential AT needs of the individual.

Disadvantages or Limitations

How the background information is applied to the assessment process is unclear. The tool appears to be the first part of an assessment protocol.

Special Accommodations: N/A

Recommendations for Future Use: None at this time.

CONTACT INFORMATION

Source
Melanie Fried-Oken
OHSU, CDRC
PO Box 574
Portland, OR 97207
(503) 494-7587

Reviewer:
Sue Mistrett
211 Walton Drive
Buffalo, NY 14226
1 800 628 2281

OREGON
HEALTH SCIENCES UNIVERSITY
CHILD DEVELOPMENT & REHABILITATION CENTER
P.O. Box 574, Portland, Oregon 97207-0574
Services for Children with Special Health Needs
University Affiliated Program

Assistive Technology Evaluation Questionnaire

Dr. Melanie Fried-Oken, Director
Ms. Jane Murphy, Coordinator
Oregon Health Sciences University
Portland, Oregon 97201
(503) 494-4632; 494-8287

Please answer the following questions and return this form in the attached, self-addressed envelope.

PATIENT'S NAME ______________________________

ADDRESS ______________________________

CITY ______________ STATE __________ ZIP CODE ________

PHONE NUMBER ______________________________

DATE OF BIRTH ______________ AGE __________

****

MEDICAL DIAGNOSIS ______________________________

PRIMARY PHYSICIAN ______________________________

PHYSICIAN'S ADDRESS ______________________________

____

PHYSICIAN'S PHONE NUMBER ______________________________

****

PRIMARY INSURANCE ______________________________
(If Medicare, list parts A and/or B; If Medicaid, provide number)

SECONDARY INSURANCE ______________________________

YOUR RELATIONSHIP TO PATIENT ____

YOUR ADDRESS AND PHONE NUMBER (If different from above)

____

____

____

****

Has patient been seen before for communication or computer access? ______ If yes, by whom? ____ When? ______________________________

If possible, please include a copy of old communication or motor skills reports or speech pathology and occupational therapy evaluation results with this questionnaire. A recent report from the referring physician would be helpful as well.

Who referred you for an assistive technology evaluation and treatment program?
____

****

1. How does the person presently communicate? In order words, what does the person do to get across an important message to people?

2. How well does the person understand other people talking? Please provide examples.

3. How well does the person speak? Does he/she have any words or regular sounds that stand for words?

4. How well do strangers understand the person's speech?

5. How well do familiar people understand the person's speech?

6. Please list some people whom the person needs to communicate with on a regular basis

7. Please list some places where the person needs to communicate

8. Please list 5 important messages that the person needs to say.

9. Can the person read? Please give examples of reading materials.

10. Can the person spell? Please give examples of spelling skills.

11. Can the person write? If so, please supply writing examples on the other side of this page.

12. If the person is exploring computer access and writing options, please describe how he/she now accesses a keyboard or writes.

13. Please list any communication aids or computer systems that the person has used.

14. Does the person have any physical disabilities? If so, please list them below.

15. Does the person have any vision or hearing disabilities? If so, please list them below.

16. What would you like this evaluation to accomplish? Please list three questions that you would like answered from the evaluation.

Thank you for completing this questionnaire. If you have any questions, I would be happy to answer them.

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Services for Children with Special Health Needs
University Affiliated Program

SCHOOL QUESTIONNAIRE

Assistive Technology Program

Thank you for filling out this questionnaire. Not all questions are applicable to every student. Please use your best judgement in answering each question. We appreciate your time and careful attention. Please include the student's I.E.P. when returning this questionnaire to the Assistive Technology Program. Use the stamped, self addressed envelope provided for you. Please call us at (503)494-4632 or 1-800-452-3563 ext. 4632, if you have problems or questions.

Date:______________________________

Student's Name:______________________________

Birthdate:______________________________

School:______________________________

Address:______________________________

____

Phone:______________________________

Contact Person/Teacher:______________________________

Class/es(Grade Level):______________________________

____

____

____

____

Days/Hours In School:______________________________

AT/questionnaire.scb-10/93

Special Services Received	**Hours/Week**	**Contact Person**
(include OT, Speech, PT, Augmentative Communication, Psychology, etc.)		
____________________	____________	____________
____________________	____________	____________
____________________	____________	____________
____________________	____________	____________

Communication

List how the student communicates (i.e., gestures, eye gaze, pointing, using pictures/symbols, signing, vocalizations, speech, etc.): ____

____

____

How well is student understood by familiar people? ____________

How well is student understood by unfamiliar people? ____________

Does student use any special equipment to communicate? If so, please list: ____

____

____

Has this been successful/unsuccessful? ____________________________

____

Speech

If student uses speech, how well is he/she understood by familiar people? ____

By unfamiliar people? ____

Language

What is student's receptive language level? ____________________

How large is the student's receptive vocabulary? ____________________

AT/questionnaire: scb-10/93

What is the student's expressive language level? ____________________

How large is the student's expressive vocabulary? ____________________

Reading

Does the student read? Yes No If so, what is the approximate reading level? ____________________

What are the student's favorite books? ____________________

____

Are any adaptations required for the student to read independently? (i.e., enlarged text, page spacers, page turners, etc.) ____________________

____

____

Writing/Spelling

What teaching approaches have been used to teach spelling? ____________________

____

What is the student's spelling grade level? ____________________

Does the student use written communication? Yes No

Describe means used for writing: ____________________

____

Please Include A Writing Sample

Have any formal tests been administered in the past six months? If so, please list the name & scores/age equivalency, etc.

____

____

____

____

AT/questionnaire.acb-10/93

Cognition

Is there a documented cognitive level? YES NO

Please list student's educational/psychological testing results:

____

____

____

Motor:

Mode of mobility at school: ____________________________

What positions are utilized throughout student's day and what special equipment (if any) is used (i.e. power chair, stander, Rifton chair, etc.)? ____________________________

____

____

What is student's most reliable movement? ____________________

____

____

Please describe active arm movement: ____________________

____

Please describe manipulative skills: ____________________

____

Are there plans for changes or additional equipment in the next year? ____________________________

____

Sensory

Are there suspected or documented hearing or vision impairments?

AT/questionnaire.ach-10/93

Yes NO If so, please describe:______________________________

Does the student wear vision or hearing aids? YES NO

When was the student's last vision screening?__________________

When was the student's last hearing screening?_________________

Daily Living Skills

What is student's highest level of functioning in the following areas

dressing ______________________________

feeding _______________________________

grooming______________________________

bathing _______________________________

toileting _____________________________

Interests:

What are the student's favorite activities at school?___________
_

____

Does student have any dislikes?_________________________________

____

Environments

In a typical school day how many hours does the student spend in:

therapies__________________ classroom(s)_________________________

cafeteria________ hallway__________________ job__________________

library/resource room_____________ traveling/bus__________________

What changes have you seen over the past year in the following areas?

sensory:____

motor:____

communication:____

AT/questionnaire.acb-10/93

self help: ____________________

interests: ____________________

What do you see as this student's future potential? (i.e. academically, vocationally, living environment) ____________________

List the questions you would like the Assistive Technology Team to answer: ____________________

Any additional information which may be helpful when seeing this student? ____________________

List the people from your school or facility that are available to join us in the evaluation:

Name	Address	Day Phone #

Who helped with filling out this questionnaire?

Name	Address	Day Phone #

THANK YOU FOR HELPING US WITH THIS FORM!

AT/questionnaire.sch-10/93

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CHILD DEVELOPMENT & REHABILITATION CENTER
P.O. Box 574, Portland, Oregon 97207-0574
Services for Children with Special Health Needs
University Affiliated Program

PARENT/CARE PROVIDER QUESTIONNAIRE

Assistive Technology Program

Thank you for filling out this questionnaire. Not all questions are applicable to everyone referred to our program. Please use your best judgement in answering each question. We appreciate your time and careful attention. Please return this questionnaire to the Assistive Technology Program in the envelope provided for you. Call us at (503) 494-4632 or 1-800-452-3563, if you have problems or questions.

Date:______________________________

Name of person being referred:______________________________

Birthdate: ______________

Address:______________________________

____

Home Phone:______________________________

Work Phone:______________________________

What school does he/she attend?:______________________________

Communication

List how this person communicates (i.e., gestures, eye gaze, pointing, using pictures/symbols, signing, vocalizations, speech, etc.):______________________________

____

____

AT questionnaire.sc[illegible]

Does this person use any special equipment to communicate? If so please list: ____________________

____

____

Has this been successful/unsuccessful? ____________________

____

Speech

If this person uses speech, how well is he/she understood by familiar people? ____________________

By unfamiliar people? ____________________

Language

How large is this person's expressive vocabulary? ____________________

How much language does this person understand? ____________________

Reading

Does this peron read? Yes No If so, what kind of reading material is he/she able to read? ____________________

What are his/her favorite books? ____________________

____

Do you read to this person? If so, when? ____________ and how many times each week? ____________________

Are any adaptations required for him/her to read independently? (i.e., enlarged text, page spacers, page turners, etc.) ____________

____

____

If this person is not reading, does he/she recognize letters and letter sounds? Yes No

Writing/Spelling

Does this person use written communication? Yes No

Describe means used for writing: ______________________________

____

What does he/she enjoy writing about? ____________________

Does he/she spell independently? ________________________

Motor:

Mode of mobility at home: _______________________________

What positions are utilized throughout his/her day and what special equipment (if any) is used (i.e. power chair, stander, Rifton chair, etc.)? ______________________________

____

____

What is this person's most reliable movement? ______________

____

____

Please describe active arm movement: ____________________

____

Please describe how well this person uses his/her hands: ________

____

____

Are there plans for changes or additional equipment in the next year? ______________________________________

____

Sensory

Are there suspected or documented hearing or vision impairments?

Yes **NO** If so, please describe: ____________________________

Does this person wear vision or hearing aids? **YES** **NO**

Daily Living Skills

What is this person's highest level of functioning in the following areas?

dressing ______________________________

feeding ______________________________

grooming ______________________________

bathing ______________________________

toileting ______________________________

What changes have you seen over the past year in the following areas? (sensory, motor, communication, self help, interests)

____

____

Environments

In what areas does this person spend the day?:

bedroom ____
school ____
church ____
kitchen ____
work ____
grandparents ____
friends ____
outside ____

What are his/her favorite places to visit? ____________________

____

AT questionnaire [illegible]

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Interests:

What are his/her favorite activities at home? ____________________

____

Does this person have any dislikes? __________________________

Does he/she have other activities outside of school/work? ______

If so, please describe? ______________________________________

What do you see as this person's future potential? (i.e. academically, vocationally, living environment) ____________

____

____

List the questions you would like the Assistive Technology Team to answer: ____

____

____

____

What are your main concerns about this person at this time? ______

____

____

List, by name, anyone you would like to be involved with the evaluation:

NAME	PHONE #	TITLE

Parent/care provider signature: ______________________________

Date: ____________________

AT questionnaire.sch-12/93

Instrument: **Assistive Technology Screener**

Author(s): Jamie Judd-Wall
Texas Technology Resource Center

Reviewer: Sue Mistrett

Format of Instrument

Four page protocol/checklist. Two page narrative Report form

Domain(s)

Performance, Special Education

Purpose

The Assistive Technology Screener is designed to be used by an IEP team as a diagnostic checklist to review the student's current AT uses and suggestions for future use.

Population

Students with disabilities, ages 5 to 21.

Setting of Administration

The AT Screener is used in school and or home settings; the environment that the AT is used in.

Materials and Tools Required

- Assistive Technology Screener Summary Report Forms A & B include the Protocol Checklist and Discussion Forms to be used and signed by all members of the IEP team.
- Manual & Resource Guide
- Report Form that describes the team recommended AT solutions.

Method

Students are referred by any member of the IEP team for consideration of AT solutions. The AT Screener acts to facilitate discussion by listing AT options in a variety of categories. Team members not in attendance review the AT Screener and offer written suggestions or pertinent student information that may impact decision making. The AT Screener collects information on AT applications within ten categories and indicates if the device was:

___ tried- (and found) successful
___ tried- (and found) unsuccessful
___ not applicable
___ suggest trying

As a result, AT devices and strategies that appear to be most appropriate for a student are listed on the Summary Form along with the person (s) who will be responsible for the trial period. IEP team members sign the forms. After the trial period, the Screener is again used to record the results.

Where and how the AT solutions are implemented into the student's daily activities is the responsibility of the IEP team. A Report summarizing the results of the assessment and trial periods is completed and AT recommendations are made. The Report is shared with the student's family.

Types of Data:

a. Reporting: IEP teams have used the AT Screener for more than four years to assist in the identification of AT options for students with disabilities. These teams generate the reports.
b. Performance data of device (engineering) N/A
c. User performance N/A
d. Environmental Resources N/A

Accommodations N/A

Interpretation of Data (process):

AT solutions to be tried are identified using the AT Screener. Trials are carried out by designated personnel and results recorded on the Screener. Acts as a record keeper of a student's AT profile.

Reported Reliability and Validity: N/A

Cost: Contact TTRC

Sample Questions: N/A

Advantages

The AT Screener provides an array of AT options in each of the technology domains that may act to prompt for extended consideration of appropriate solutions. Its use by a student's multi-disciplinary team ensures shared communication. The Summary Report Form indicates the team recommended AT devices/modifications and ensures their trial by designating an individual responsible for follow-up. Additional AT evaluations that may assist the student are also indicated.

The Report Form addresses all aspects of the AT Evaluation in narrative form and includes specific recommendations post trial periods.

The tool may also provide a way to view the student's AT history at a glance. It has helped to ensure the continuation of AT use by a student in a new classroom or district.

Disadvantages or Limitations

The AT Screener is not designed as a comprehensive AT assessment tool. After the student's needs are identified, the Screener is used to prompt for available AT options. The tool helps to identify which AT options may be useful but fails to address how the AT devices/modifications are used to impact the student's performance. Student outcomes are not addressed. Family issues and concerns are not addressed.

Special Accommodations: N/A

Recommendations for Future Use: None at this time.

CONTACT INFORMATION

Source:
Texas Technology Resource Center
Jamie Judd Wall
PO Box 150878
Austin, TX 78715
(512) 280 7235

Reviewer:
Sue Mistrett
211 Walton Drive
Buffalo, NY 14226
1 800 628 2281

Technology and Inclusion

TEXAS TECHNOLOGY RESOURCE CENTER
A PROJECT OF TECHNOLOGY AND INCLUSION

administrative offices
8207 Treehouse Lane, Austin, TX 78749

Assistive Technology Screener©

~~Manual~~ & ~~Resource Guide~~	$25
Protocol & Reporting Form- Packs of 25	$25

The Assistive Technology Screener© is a diagnostic checklist. It is designed to be used by an individual or a team to ~~review both~~ high tech and ~~low tech assistive technologies used and~~ suggested for use by a student.

The Assistive Technology Screener© meets all state and federal guidelines for assistive technology assessment.

The Assistive Technology Screener© consists of the protocol form, the reporting form and the ~~manual with resource guide~~. ~~The protocol~~ is ~~used by the team to document assistive~~ technologies in use, used in the past, and those suggested for use. The team can then determine if ~~the individual~~'s ~~needs are being met with~~ the ~~available technologies, including low tech strat~~egies, or if a more in-depth assessment is needed. The reporting form can be shared with parents and other professionals. ~~used to supplement~~ the ~~comprehensive individual assessment~~ reports, vocational or transition plans or used to supplement other therapeutic assessment reports.

TEXAS TECHNOLOGY RESOURCE CENTER, MCBETH RECREATION CENTER, 2401A COLUMBUS DRIVE. AUSTIN. TX 78746
~~mailing address~~- P.O. ~~Box 150878, Austin~~, TX ~~78715-0878~~
voice- (512) 280-7235 ***fax- (512) 891-9288*** ***internet- TAJ Center@aol.com***

"Seeing the Ability"

Assistive Technology Screener © Summary Report Form 1

Student ______________________ **D.o.B.** ____________ **Id. Num.** ____________

District ____________ **School** ______________ **Date** ____________________

Completed By (check one): ___ individual ___ team (indicate team format)

Team Format (check one): ___ Team Meeting ___ Phone Conference ___ Individual Input

The Assistive Technology Screener is a guide for the I.E.P. team. It is not an endorsement of any product, item or system.

1. Access Modifications

___ current technologies and strategies meet the student's needs
___ different and/or additional technologies and/or strategies
need to be tried - list here ____________________
____
follow up by ____________________
___ an extended assistive technology evaluation in this area is
needed - referred to ____________________
___ no assistive technology devices or services in this area are
needed

2. Augmentative & Alternative Communication

___ current technologies and strategies meet the student's needs
___ different and/or additional technologies and/or strategies
need to be tried - list here ____________________
____
follow up by ____________________
___ an extended assistive technology evaluation in this area is
needed - referred to ____________________
___ no assistive technology devices or services in this area are
needed

3. Environmental Controls

___ current technologies and strategies meet the student's needs
___ different and/or additional technologies and/or strategies
need to be tried - list here ____________________
____
follow up by ____________________
___ an extended assistive technology evaluation in this area is
needed - referred to ____________________
___ no assistive technology devices or services in this area are
needed

4. Mobility

___ current technologies and strategies meet the student's needs
___ different and/or additional technologies and/or strategies
need to be tried - list here ____________________
____
follow up by ____________________
___ an extended assistive technology evaluation in this area is
needed - referred to ____________________
___ no assistive technology devices or services in this area are
needed

5. Modified Student Products

___ current technologies and strategies meet the student's needs
___ different and/or additional technologies and/or strategies
need to be tried - list here ____________________
____
follow up by ____________________
___ an extended assistive technology evaluation in this area is
needed - referred to ____________________
___ no assistive technology devices or services in this area are
needed

6. Multi-Sensory Modifications

___ current technologies and strategies meet the student's needs
___ different and/or additional technologies and/or strategies
need to be tried - list here ____________________
____
follow up by ____________________

6. Multi-Sensory Modifications (cont'd)

___ an extended assistive technology evaluation in this area is
needed - referred to ____________________
___ no assistive technology devices or services in this area are
needed

7. P.E./Recreation/Leisure

___ current technologies and strategies meet the student's needs
___ different and/or additional technologies and/or strategies
need to be tried - list here ____________________
____
follow up by ____________________
___ an extended assistive technology evaluation in this area is
needed
referred to ____________________
___ no assistive technology devices or services in this area are
needed

8. Positioning

___ current technologies and strategies meet the student's needs
___ different and/or additional technologies and/or strategies
need to be tried - list here ____________________
____
follow up by ____________________
___ an extended assistive technology evaluation in this area is
needed - referred to ____________________
___ no assistive technology devices or services in this area are
needed

9. Self-Help

___ current technologies and strategies meet the student's needs
___ different and/or additional technologies and/or strategies
need to be tried - list here ____________________
____
follow up by ____________________
___ an extended assistive technology evaluation in this area is
needed - referred to ____________________
___ no assistive technology devices or services in this area are
needed

10. Sensory Impairment

Vision

___ current technologies and strategies meet the student's needs
___ different and/or additional technologies and/or strategies
need to be tried - list here ____________________
____
follow up by ____________________
___ an extended assistive technology evaluation in this area is
needed - referred to ____________________
___ no assistive technology devices or services in this area are
needed

Hearing

___ current technologies and strategies meet the student's needs
___ different and/or additional technologies and/or strategies
need to be tried - list here ____________________
____
follow up by ____________________
___ an extended assistive technology evaluation in this area is
needed - referred to ____________________
___ no assistive technology devices or services in this area are
needed

SAMPLE

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Assistive Technology Screener © Summary Report Form 2

Student ______________________ **D.o.B.** __________ **Id. Num.** __________

District __________ **School** ______________ **Date** ______________

Completed By (check one): ___ individual ___ team (indicate team format)

Team Format (check one): ___ Team Meeting ___ Phone Conference ___ Individual Input

The Assistive Technology Screener is a guide for the I.E.P. team. It is not an endorsement of any product, item or system.

SAMPLE

____ Current technologies and strategies meet the student's needs in the following area/s:

- ____ Access Modifications
- ____ Augmentative & Alternative Communication
- ____ Environmental Controls
- ____ Mobility
- ____ Modified Student Products
- ____ Multi-Sensory Modifications
- ____ P.E./Recreation/Leisure
- ____ Positioning
- ____ Self-Help
- ____ Sensory Impairment
  - ____ Vision ____ Hearing

____ No assistive technology devices or services are needed in the following area/s:

- ____ Access Modifications
- ____ Augmentative & Alternative Communication
- ____ Environmental Controls
- ____ Mobility
- ____ Modified Student Products
- ____ Multi-Sensory Modifications
- ____ P.E./Recreation/Leisure
- ____ Positioning
- ____ Self-Help
- ____ Sensory Impairment
  - ____ Vision ____ Hearing

____ An extended assistive technology evaluation is needed in the following area/s:

____ Access Modifications
referred to ______________

____ Augmentative & Alternative Communication
referred to ______________

____ Environmental Controls
referred to ______________

____ Mobility
referred to ______________

____ Modified Student Products
referred to ______________

____ Multi-Sensory Modifications
referred to ______________

____ P.E./Recreation/Leisure
referred to ______________

____ Positioning
referred to ______________

____ Self-Help
referred to ______________

____ Sensory Impairment
____ Vision
referred to ______________
____ Hearing
referred to ______________

____ Different and/or additional technologies and/or strategies need to be tried in the following area/s:

____ Access Modifications
technologies/strategies: ______________
____
follow up by ______________

____ Augmentative & Alternative Communication
technologies/strategies: ______________
____
follow up by ______________

____ Environmental Controls
technologies/strategies: ______________
____
follow up by ______________

____ Mobility
technologies/strategies: ______________
____
follow up by ______________

____ Modified Student Products
technologies/strategies: ______________
____
follow up by ______________

____ Multi-Sensory Modifications
technologies/strategies: ______________
____
follow up by ______________

____ P.E./Recreation/Leisure
technologies/strategies: ______________
____
follow up by ______________

____ Positioning
technologies/strategies: ______________
____
follow up by ______________

____ Self-Help
technologies/strategies: ______________
____
follow up by ______________

____ Sensory Impairment
____ Vision
technologies/strategies: ______________
____
follow up by ______________
____ Hearing
technologies/strategies: ______________
____
follow up by ______________

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Assistive Technology Screener © Form B

Student ______________________________ D.o.B. ______________ Id. Num. ______________

District ____________________ School ____________________ Date ______________________

Completed By: individual (name__________________ position __________________) team

The Assistive Technology Screener is designed to be used by an individual or team to review the assistive technology used and suggested for use by a student.

For a discussion of devices and terms, see the Screener manual

To Use: See the manual for instructions

The Assistive Technology Screener is a guide for the I.E.P. team. It is not an endorsement of any product, item or system.

SAMPLE

	tried-successful	tried-unsuccessful	not applicable	suggest trying	follow up by:
1. Access Modifications					
Low Tech					
Assignments/Books on Tapes					
Dial Scan					
Eye Gaze Board					
Highlighted Text					
Large Print					
Pencil/Pen Grips					
Pointing Tool					
chin pointer					
head pointer					
light pointer					
mouth stick					
Other- ______________					
High Tech					
Alternate Keyboard					
type /s______________					
Assignments/Books on Disk					
Control Interface					
type______________					
Expanded Keyboard- standard setup					
type______________					
Expanded Keyboard-customized					
type______________					
Modified Keyboard					
Morse Code					
Mouse Emulation					
type______________					
On-Screen Keyboard					
Personal Reader					
Scanning-					
single switch/multiple switches type______ site______					
Switch Interface-					
single switch/multiple switches type______ site______					
Voice Recognition System					
Other-______________					
2. Augmentative & Alternative Communication					
Low Tech					
Alphabet Board					
Calendar Box					
Loop Tapes					
Magnetic Tape Cards					
Object Board					
Picture Board- line drawings					
Picture Board- photos					

	tried-successful	tried unsuccessful	not applicable	suggest trying	follow up by
2. Augment. & Alternative Comm. (cont'd)					
Low Tech (cont'd)					
Word Board					
Other-______________					
High Tech					
Computer-based VOCA (MAC or DOS)					
alphabet/word based					
abbreviation/expansion					
pre-programmed phrases					
word prediction					
icon based					
multi-level					
single level					
Digitized Speech VOCA					
multi-level					
single level					
Synthetic Speech VOCA					
alphabet/word based					
abbreviation/expansion					
pre-programmed phrases					
word prediction					
icon based					
icon-prediction					
integrated display					
multi-level					
multi-meaning icons					
single level					
Other-______________					
3. Environmental Controls					
Low Tech					
Bathroom Modification					
Door Knob Modification					
Light Fixture Modifications					
Telephone Pad Modification					
Other-______________					
High Tech					
Battery Operated (Item______________)					
Electronic Door					
Electrically Operated (Item______________)					
latching or timed					
Telephone Dialing Modifications					
Telephone Modem/Relay					
Thermostat Modifications					
TV/Radio Channel/Volume Selector					
Other- ______________					

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Assistive Technology Screener

Student________________________ **Id. Num.** ____________ **Date** ______________

The Assistive Technology Screener is a guide for the I.E.P. team. It is not an endorsement of any product, item or system.

SAMPLE

	tried successful	tried unsuccessful	not applicable	suggest trying	follow up by
4. Mobility					
Cane					
Walker					
Wheelchair/Standing Chair					
manual					
motorized					
Other- ____________					
5. Modified Student Products					
Low Tech					
Altered Format					
multiple choice					
single word/short answer					
other- ____________					
Assignments on Tape					
Calculator- printing					
Letter/Number Stamps					
Typewriter					
manual					
electric					
Other- ____________					
High Tech					
Assignment on Disk					
Instructional Software					
Subject/s-					
art					
articulation/speech therapy					
early learning/readiness					
foreign language					
functional skills					
language arts					
mathematics					
music					
reading					
science					
social skills					
social studies					
vocational					
other ____________					
Math ScratchPad Software					
Writing Aids-					
electronic word processor					
word processing software					
additional features-					
abbreviation expansion					
grammar check					
spell check					
voice output					
word prediction					
Other- ____________					
6. Multi-Sensory Modifications					
Non-Amplifying FM System					
Text/Image Scanner/Reader					
Other- ____________					
7. P.E./Recreation/Leisure					
Aim/Release Modifications					
Ball Sport Modifications					
Bicycle Modifications					

	tried successful	tried unsuccessful	not applicable	suggest trying	follow up by
7. P.E./Recreation/Leisure (cont'd)					
Bowling Modifications					
Bulletin Board/E-Mail					
Personal Rotation Devices					
Play Vehicle Modifications					
Recreational Software					
title/s- ____________					
Slide Projector Modifications					
Vehicle Modifications					
Video Game Modifications					
type ____________					
Other- ____________					
8. Positioning					
Bolster Chair					
Corner Chair					
Customized Seating System					
Floor Chair					
Modified Standard Chair with					
foot supports					
lumbar support					
platform					
seatbelt					
torso supports					
Sidelyer					
Stander					
prone supine upright					
Other- ____________					
9. Self-Help					
Low Tech					
Cleaning/Washing Modifications					
Clothing/Dressing Modifications					
Drinking Modifications					
Feeding Modifications					
Job/Task Specific Modifications					
Personal Planner					
Reach/Grip Tools					
Other- ____________					
High Tech					
Electronic Organizer					
Page Turner					
Other- ____________					
10. Sensory Impairment					
See Appendix A, page 3					

Team Members Completing Form/Date Completed:

Administrator- ____________/______

Diagnostician- ____________/______

Occupational Therapist- ____________/______

Physical Therapist- ____________/______

Speech/Language Pathologist- ____________/______

Teacher- ____________/______

Teacher- ____________/______

Vocational/Job Coach- ____________/______

Other- ____________/______

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Assistive Technology Screener ©

Appendix A

Student ______________________________ Id. Num. ____________ Date ______________

The Assistive Technology Screener is a guide for the I.E.P. team. It is not an endorsement of any product, item or system.

10A. Sensory Impairment

Vision	tried successful	tried unsuccessful	not applicable	suggest trying	follow up by:
Low Tech					
Auditory Signal					
Braille Items					
Color Shields					
Enhanced Visual Contrast					
Enlarged Display					
Enlarged Print					
Long Cane					
Magnifier					
Talking Card System					
Talking Items					
Telescopic Spectacles					
Vibrating Signal					
Writing Guide					
Other ____________					
High Tech					
Audio-Captioned Television					
Braille Keyboard					
Braille Printer					
Closed Circut Television/Magnifier					
Electronic Mobility Aids					
Optical Character Readers					
text-to-braille					
text-to-speech					
Portable Notetaker					
Refreshable Braille					
Screen Reading System					
Screen Magnification					
Tactile Reading Device					
Other ____________					

10B. Sensory Impairment

Hearing	tried successful	tried unsuccessful	not applicable	suggest trying	follow up by:
Low Tech					
Flashing Signal					
Telephone Relay System					
Vibrating Signal					
Other ____________					
High Tech					
Amplifying FM System					
Closed Captioning					
Hearing Aid					
Phone Communicator System					
Real Time Captioning					
Telecommunication Device f/t Deaf					
Telephone Amplification					
Other ____________					

SAMPLE

Team Members Completing Form/Date Completed:

Administrator- ______________________/______

Diagnostician- ______________________/______

Vision Specialist- ______________________/______

O & M Specilaist- ______________________/______

Teacher- ______________________/______

Teacher- ______________________/______

Vocational/Job Coach- ______________________/______

Other- ______________________/______

Other- ______________________/______

Other- ______________________/______

Team Members Completing Form/Date Completed:

Administrator- ______________________/______

Diagnostician- ______________________/______

Audiologist- ______________________/______

Speech/Language Pathologist- ______________________/______

Teacher- ______________________/______

Teacher- ______________________/______

Vocational/Job Coach- ______________________/______

Other- ______________________/______

Other- ______________________/______

Other- ______________________/______

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Form 3 page 4

Assistive Technology Screener

Discussion Section

Student ______________________________ Id. Num. ______________ Date ________________

Completed By: individual (name ______________ position ______________) team

The Assistive Technology Screener is a guide for the I.E.P. team. It is not an endorsement of any product, item or system.

SAMPLE

Follow-up Personnel Key:
T - classroom teacher
S - speech/language pathologist
P - physical therapist
O- occupational therapist
V - vision impaired teacher/consultant
J - vocational education teacher/job coach
M - orientation/mobility teacher/consultant
A - audiologist
H - hearing impaired teacher/consultant
C - assistive technology specialist/consultant
L - campus administrator
D - diagnostician
Z - other ______________________________

Team Meeting Format:
______ Team Meeting
______ Phone Conference
______ Individual Input

Team Members Completing Form/Date Completed:
Administrator- ____________________/________
Diagnostician- ____________________/________
Occupational Therapist- ____________________/________
Physical Therapist- ____________________/________
Speech/Language Pathologist- ____________________/________
Teacher- ____________________/________
Teacher- ____________________/________
Vocational/Job Coach- ____________________/________
Other- ____________________/________

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Section E

Computer Access

Section E: Computer Access (1)

Instrument: MRCI RTS Computer Access Evaluation

Author(s): Darrin C. Harrison
Maryland Rehabilitation Center

Reviewer: Pat Ourand

Format of Instrument: 5 page outline

Domain(s) Computer Access, Performance, Quality of Life, Satisfaction, Cost

Purpose

To provide the process for completion of a Computer Access Evaluation. The Process includes: initial interview, access lab evaluation, review access evaluation findings / finalize equipment, write report.

This tool enables a team member to follow a process for completion of a computer access evaluation. Specific equipment is listed to ensure the evaluator assesses all options. The use of this tool allows a team to identify specific equipment needs on an individualized, customized basis.

Population

Designed for adults (e.g., 16+), however may be readily adaptable for all ages.

Setting of Administration

May occur in many environments, including center based, inpatient, outpatient, home.

Materials and Tools Required

Complete inventory of assistive technology typically utilized for written communication and computer access. Microcomputer to complete written evaluation of results.

Method

Outline is used as a guide through interview, evaluation, review of findings, and writing report.

Reporting (Self reported, reported by others)

a. Clinical Observation; self-report; simulation activities (e.g., writing samples).
b. Performance data of device: N/A
c. User performance- Function: Impairment (organ level),
Disability (person function); Social Participation and ADL (in community environment).

Environmental Resources

Clinical setting with complete inventory of equipment for use throughout the evaluation.

Interpretation of Data

Subjective clinical observation; objective measurements of performance between various devices.

Reported Reliability and Validity Not Available

Cost: Cost for equipment inventory; photocopy costs for instrument duplication.

Sample Questions:

Written Communication ?

___ pen or pencil
___ standard typewriter or computer

Text Entry / Keyboard Usage?

___ standard keyboard
___ smaller keyboard
___ larger keyboard
___ one-handed keyboard
___ accessDOS or Access Pack for Windows
___ word prediction / abbreviation expansion
___ appropriate workstation design

Text Entry / Alternative to Keyboard?

___ on-screen keyboard with direct selection
___ on-screen keyboard with scanning selection
___ voice recognition
___ Morse code

Pointer Control (Mouse and Alternatives)?

Advantages

- Step-by-step process provides a method of comparison and quantitative analysis of various pieces of equipment.

Disadvantages or Limitations

- Requires an extensive inventory of equipment.
- Equipment must be updated continually.
- Evaluator must maintain up-to-date information on all equipment available and used in the lab

Special Accommodations: N/A

Recommendations for Future Use

- May be integrated into a formal, standardized tool for an Assistive Technology Assessment.

CONTACT INFORMATION

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Reviewer:
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23 Kirwin Court
Baltimore, MD 21234
410 661 8894 Email: pat_ourand@umail.umd.edu

Maryland Rehabilitation Center
RTS Computer Access Evaluation Process

Prepared by:
Darrin C. Harrison
August 16, 1996

1. Initial Interview

Gather information necessary to perform the assessment. Look over the referral information prior to the arrival of the consumer. Make note of any pertinent information. Call the consumer or referral source regarding referral questions, if necessary information was not provided with the referral.

a. Disability Information
  i. Written communication difficulties, physical or otherwise
  ii. Keyboard/Mouse use difficulties, physical or otherwise
  iii. Vision difficulties/issues related to reading, writing, or computer use.

b. Identify Goals
  i. Long Term
  ii. Next Few Weeks/Months
  iii. During Evaluation

c. Previous Computer Experience
  i. Know how to type
  ii. Familiar with DOS, Windows-3.1, Window-95, or Macintosh
  iii. Word processing and other common application software
  iv. other

d. Known Specific Computer Requirements
  i. Is there a particular computer or software program used in a job or educational setting that must be matched?

2. Access Lab Evaluation

Evaluation to look at written communication and computer access issues. If the evaluation is strictly for specifying a computer, with no access issues (example: home based employment, educational program), then the evaluation could be stopped after verifying ability to use the standard computer devices. Additionally, for all evaluations, note whether the consumer appears to understand the application software, or whether they appear capable of easily learning the application software.

a. Written Communication

Method for written communication should be performed for most comprehensive evaluations, particularly for Medical & Functional evaluations.

- i. Pen or Pencil
  - (1) Record writing speed, legibility, any special pen or grip
- ii. Standard Typewriter or Computer
  - (1) Record typing speed, accuracy, and fingering methods

b. Text Entry / Keyboard Usage

If typing rate from above is unsatisfactory, and the consumer is physically able to use a keyboard, then test the following devices, as appropriate.

- i. Standard Keyboard
  - (1) If typing with 1 or 2 fingers, and accuracy is problem, try a key-guard
- ii. Smaller Keyboard:

  Generally, smaller keyboards should be considered when a reduced range of motion (ROM) of the hand or arm is a potential issue.
  - (1) Datalux Keyboard

    (Has proven useful for 2-hand typists with reduced ROM)
  - (2) Magic Wand Keyboard

    (Has proven useful for consumers with severe M.S.)
  - (3) TASH Mini-Keyboard

    (Has proven useful for consumers with M.S.)
- iii. Larger Keyboard:

  Generally, the large keyboards should be considered when the consumer has acceptable control over a wide range of motion, but poor fine motor control within that range (EX - Tremors, C.P.). It may be appropriate to try a key-guard with these keyboards.
  - (1) IntelliKeys (Works for Macintosh, IBM XT, AT, and PS/2 ports)
  - (2) Unicorn Keyboard (Requires extra electronics and software)
- iv. One-Handed Keyboard
  - (1) Datalux Keyboard
  - (2) Dvorak arranged keyboard
  - (3) BAT or other chorded keyboard
- v. Ergonomic Keyboard
  - (1) MS Natural Keyboard
  - (2) MyKey Keyboard
  - (3) Kinesis Keyboard
  - (4) ComfortType: Useful to try various positions, but poor for provision to most clients. It is too difficult to reliably repeat a position if it gets bumped out of alignment.
- vi. AccessDOS or Access Pack for Windows
  - (1) Useful for holding shift keys, stopping key repeat

- vii. Word Prediction / Abbreviation Expansion
    - (1) Most useful if raw typing speed is under 5-6 WPM. Expect a maximum rate of 8-10 WPM with prediction.
- viii. Appropriate Workstation Design
    - (1) Keyboard Tray
    - (2) Adjustable height/angle table
    - (3) Foam wrist pads
    - (4) Mobile arm support
    - (5) Adjustable monitor float
    - (6) Adjustable copy holder
    - (7) See the MRC OT department for additional assistance

c. Text Entry / Alternative To Keyboard

If the client is unable to use a keyboard, or the productivity with a keyboard does not reach the required levels, try the following devices.

- i. On-Screen Keyboard with Direct Selection (See Pointer Control)
    - (1) WiViK
    - (2) HandiKey
- ii. On-Screen Keyboard with Scanning Selection
    - (1) WiViK
    - (2) HandiKey
- iii. Voice Recognition:

    Offers potential for high productivity, but required high cognitive functioning and good problem solving skills required, and previous computer experience is strongly recommended.
    - (1) Dragon Dictate

        First company with a useful product. Current system has very good mouse control for a voice product.
    - (2) Kurzweil Voice

        Similar accuracy to current Dragon Dictate. Most recent version finally added some rudimentary mouse controls.
    - (3) IBM Voice Type

        IBM's own product. Very accurate, high WPM rates, but no mouse control in most recent versions.
- iv. Morse Code
    - (1) HandiCode (DOS)
    - (2) Words+ EZ-Keys for Windows
    - (3) Darcy II (borrow from manufacturer)

d. Pointer Control (Mouse and Alternatives)

The design of current computer operating systems almost always requires the user to be capable of using a pointing device like a "mouse". Some users (graphic artists, etc) who will be designing graphics on the computer will require more accurate and flexible controls than the average user might. The consumer's ultimate goals should be kept in mind when determining the appropriate pointing device. At a minimum, all users should be able to reliably move to any location on the screen, and perform single click, double click, and drag operations with the left mouse button. It is becoming increasingly important for some use of the right button as well, particularly with Windows-95 and Windows-NT.

i. Mouse
  - (1) Microsoft and Logitech contoured mice
  - (2) Non-Contoured universal mice

ii. Trackball
  - (1) Large ball like the MicroSpeed "WinTrack", Kensington "Expert Mouse", or Microsoft "Easy Ball."
  - (2) Small ones like the clip on or built in
  - (3) Other strangely shaped trackballs, like the Logitech "Trackman"

iii. Touch Pad
  - (1) Built into keyboards and laptops
  - (2) External for Desktop use

iv. Joystick
  - (1) TASH "MouseMover" with Atari Joystick.
  - (2) Penny & Giles "Light Joystick".
  - (3) PI Engineering "WhyMouse JoyDapter" with IBM Game Joystick.
  - (4) "Lizison" - Chin controlled system. Its current design requires use of a Bus-Mouse adapter card for the IBM compatible computers.

v. HeadMotion
  - (1) "HeadMaster"
  - (2) "HeadMouse" (new name: "Tracker")

vi. Keyboard - Numeric Keypad
  - (1) "AccessDOS"
  - (2) "Access Pack for Windows 3.1"
  - (3) Access control panel for Windows-95
  - (4) Access control panel for Macintosh

vii. Pen Tablet
  - (1) Wacom "ArtZ II Tablet"

viii. Switches
  - (1) TASH "MouseMover" with 5 individual switches.
  - (2) "KenX" with scanning

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3. Review Access Evaluation Findings Finalize Equipment

a. Review the adaptive equipment that appears to work best

b. See which combination the client prefers, especially among those that the RTS staff found appropriate.

c. Make a list of application software to meet the client's needs.

d. Make a list of computer hardware required to support the access equipment/software and application software. Don't forget any necessary accessories like printers, tape backup, Modems, Power Strip/Supply, etc.

4. Write Report

a. Include evaluation findings and lists for any recommended equipment.

b. Note whether consumer has adequate computer experience, or whether any additional training at a local community college or from the vendor is required.

Section F

Cognitive Functioning

Instrument: **Essential Steps, Computer AT System for Cognitive Impairments**

Author: Mastery Rehabilitation Systems Inc.

Reviewers: Laura Cushman
Marcia Scherer

Domain Cognitive Functioning

Purpose

To serve as an orthotic for various cognitive operations that can be impaired by neurologic/neuropsychological dysfunction to support memory retention and retrieval, organization, time management, and sequencing through the use of retained abilities and activity habit.

Population

Adults with brain injury, most commonly traumatic brain injury but also stroke, multiple sclerosis, cerebral palsy, Alzheimers? Dementia, Learning Disabilities. According to the developers, users can have moderate to severe deficits in up to five of the following attributes and still be successful with Essential Steps: 1. Intellectual functioning (moderate or higher), Rancho Los Amigos levels of cognitive functioning of 6 or higher; 2. Orientation; 3. Memory; 4. Sensory/perceptual; 5. Reasoning/judgement.

Setting

This is not an assessment tool per se, but a system designed for daily use throughout formal rehabilitation and beyond tools-multiple pieces of computer hardware and software are required. Contact developers for specific information.

Method/types of Data

The system is designed to be used independently by the individual performance data-clinical reports of use/patterns of use is all, not performance of software or support services user-system works at the levels of disability and handicap (social/community adjustment).

Environmental Resources

Cost-in an example provided, the cost is $12,000 for a 5-year (required) lease; this is not including required hardware and software modules.

Sample Questions

n/a; Some of the basic modules or functions of the software packages include an electronic journal, addressbook, calendar, timekeeper and bank account tracker.

Accommodations

The use of this system appears to require intact typing skills, the ability to use a tracking device, intact reading ability, and grossly intact visual perceptual skills although accommodation can be made for visual neglect. There were no obvious accommodations for those visually or perceptually impaired. The screen environment is adapted to the user's color preferences, etc. The components are able to be modified to suit individuals' needs, but it is not clear how many persons with significant attentional and executive cognitive deficits would be able to operate the system.

Interpretation of Data

It is possible to obtain computer-generated information on how long/often the modules are used, how many attempts occur, and what the user accesses, though no systematic guidelines for interpreting this were presented.

Validity

This comes primarily from clinical case example to illustrate the features of the system and the positive impact on the client's life. One study (unpublished?) demonstrated 27/30 brain injured Ss learned the system in the error-free manner it is designed for. Contact supplier for copies of current articles on the system.

Cost - The modules are leased over three years. Varies according to the number of modules selected. A rough estimate is $5000 for the 1st year (hardware, installation, etc. are additional). For six modules at $50 per module for the first year. Module monthly fees decrease to $30 in the second year. A basic lease fee is $100 per month for technical and clinical support. The 17 specific activity modules are additional and are priced individually. The 'costs saved' example includes less time needed for therapy with ES, and less associated medication costs. This may be true for the example, but much more data would be needed to substantiate this type of savings overall.

Sample Qs - see above

Advantages

- Simpler, easier to learn system for brain injured versus commercial word processor, for example, built -in cues help assist memory-impaired user to "navigate".
- Software modules only have to include those wanted or needed
- Designed to be potentially used independently by consumer
- Auditory feedback (and other?) helps by reinforcing use
- Can be set up to accommodate right or left visual neglect

Disadvantages

- Appears designed to work or work best with a subgroup of patients-those with mild to moderate brain injury.
- Appears less likely to work with those patients with a visual field cut or neglect, severe attentional dysfunction, amotivational syndromes, highly distractible or hyperactive patients, language impairment, reading impairment or poor visual-motor abilities.
- Cost.
- Requirement of frequent input.
- Need for keyboard skills and high desirability of prior PC experience although although authors claim prior computer use is of negligible influence.
- Relatively little data beyond case examples to describe effectiveness, especially versus other types of computer (or other) aides.

Special Accommodations - as above

Recommendations for Future Use

This is a good tool for consumers who need cognitive assistance. ESSENTIAL STEPS is expensive; fortunately the supplier has a complimentary demo disk available so that the system can be tried and assessed with potential users before making a commitment to purchase.

CONTACT INFORMATION

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The Essential Steps® Lease

Essential Steps® is an integrated system of specialized software, service and support for users with cognitive deficits. The Essential Steps® system is licensed to the user through a nontransferable lease. Courtesy supplementary licenses can be extended to designated rehabilitation specialist(s) for that period during which the therapist(s) are working with the licensed user, and to selected family members at the discretion of the user.

A Basic System lease provides the generic features of the system, the Maintenance Menus© and System Tools© needed for ongoing reconfiguration and maintenance (e.g., therapeutic modifications; service access; data base reindexing; resetting the computer clock; system setting changes), first level support services (e.g., answering questions by telephone; continuously available back-up by modem), and upgrades. Basic System features are necessary for reliable support of users who require a system which is trustworthy. Hence the Basic System lease is a requisite for each Essential Steps® user.

Specific Activity Module lease charges are additional to the Basic System Lease and are paid over the first 36 months following installation of each Specific Activity Module. For available Specific Activity Modules, the first year lease payment is 50% of the module-specific fee; the second year lease payment is 30%; and the remaining 20% is due in the third year. Thereafter a Specific Activity Module lease renews automatically upon maintenance of the Basic System lease. Fees for the first six months must be paid in advance of installation and thereafter semiannually in advance of the funded term.

Once goals are identified for a user, pertinent Specific Activity Modules are selected from the list of available Essential Steps® modules. Rehabilitation specialists have the flexibility to make configuration changes, add modules, or request special applications. Thus each user's Essential Steps® system is unique to his or her needs. Customization and special projects will be considered, dependent on design requirements and availability of MASTERY resources. Estimates for customization and special contrasts are available, based on an hourly rate; actual development costs may vary from estimates. Training and supervision are available upon request at an hourly rate.

Please contact MASTERY with any questions about the Essential Steps® lease arrangement: by phone at (610) 664 2025 or (800) 859 2828;
by FAX at (610) 664 1099; or by e-mail at 75601.655@compuserve.com.

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Section G

Consumer Satisfaction
and
Client Follow Up

Instrument: **QUEST**

Author(s): Louise Demers, Occupational Therapist,
Rhoda Weiss-Lambrou, Professor,
Bernadette Ska, Professor.

Reviewer: Heidi Horstmann Koester, Ph.D.

Format of Instrument

Instrument is administered in a one-on-one interview format, with client responses recorded by the clinician on the QUEST assessment form. QUEST is available in English, French and Dutch. A software program for transcribing and interpreting the QUEST results is currently under development.

Domain(s)

The focus of the QUEST instrument is assessment of client satisfaction with the selection of a particular assistive technology device not the intervention process. Quest is both a clinical and research instrument that was developed to provide a better understanding of the factors influencing user satisfaction with assistive devices. Satisfaction is measured through 24 distinct variables which tap into numerous aspects of satisfaction, including technical as well as psychosocial issues.

Purpose

As stated by the authors, the objectives of QUEST are: "(1) to define the context in which user satisfaction or dissatisfaction developed; (2) to assess the degree of importance the user ascribes to each of the satisfaction variables; (3) to rate the degree of satisfaction the user attributes to each of the variables and to his/her global satisfaction with the assistive technology device."

Population

The population which could be validly assessed with this instrument includes any individual who uses (or has used) at least one assistive technology device and who has the cognitive ability to understand the concepts dealt with in the instrument. These concepts include the 24 satisfaction variables as well as the notion of relative importance and relative satisfaction between variables.

The instrument appears to be quite straightforward from the clinician's point of view, and could be administered by any professional in assistive technology or even a trained assistant.

Setting of Administration

QUEST could be administered in a wide range of settings. The preferred method is a one-on-one interview between the client and the clinician, which could occur almost anywhere. The current packaging for QUEST is designed for easy portability. An interesting feature of the packaging is the use of 24 laminated sorting cards on which each variable is printed, as well as two colorful sliding scales which can be manipulated for the client to show degree of importance and satisfaction. These physical representations are integrated nicely into the package and could help make the task more tangible to the client.

Materials and Tools Required

Materials are provided in the QUEST package and include: a user manual, paper response sheet for the clinician, 24 laminated cards showing each satisfaction variable, an interactive box for categorizing the relative importance of each variable, and a sliding bar for rating the relative satisfaction with each variable.

Although at the time of this writing, materials are not provided for processing client responses into a final profile, a software program for transcribing and interpreting the QUEST results is currently under development.

Method

For each assistive device being evaluated, the instrument is administered in its entirety. In the context of follow-up, QUEST should be administered after the client has received and been trained to use the assistive device in question. It can be repeated for example, after 2, 4, or 6 months or more, to evaluate if and how the client's satisfaction evolves over time and use.

QUEST is administered in three parts The first part asks 18 general information questions. Client-related questions address topics such as the client's age, type of disability, issues with independence in daily living, etc. Device-related questions address how often the device is used, the client's previous experience with similar devices, when the device was prescribed, how it was funded, etc.

In the second part, the client is asked to rate the importance of 24 different satisfaction variables, as they relate to this device. Importance is rated on a 5-level scale, from "no importance" to "very important." Rather than simply present the client with a variable (e.g., "simplicity of use") and ask the client for a verbal rating of its importance, QUEST employs a more tangible method. Each variable is written on a laminated card. The stack of cards is presented to the client, and he/she is asked to sort them by placing each one on one of six squares corresponding to the desired response. (The sixth square is for "not applicable" responses.)

In the third part of QUEST, the client is asked to rate their satisfaction with each of the 24 variables, as they apply to this device. Satisfaction is rated on a 5-level scale from "not satisfied at all" to "very satisfied." As with the importance ratings, a physical technique is used to elicit client responses. For each variable card, the client slides a square along a track, stopping at the desired satisfaction level.

The clinician records client responses on the QUEST assessment form. There is currently no assistance provided for synthesizing the raw responses into some sort of satisfaction profile for the client; the authors note that this portion of QUEST is still under development. QUEST is currently undergoing psychometric evaluation for validity and reliability; for this purpose the authors have obtained funding from the Canadian Occupational Therapy Foundation.

Types of Data

a. Reported by Client to Clinician

b. Performance data of device (engineering): subjective, as rated by client

c. User performance

There are a few questions that address the client's disability, but the focus is on the system comprised of the client, device, and environment/ community.

d. Environmental Resources: self-report by client, or filled in by clinician if known.

e. Cost for collecting data is what it takes for client to supply data in one on one interview.

Sample Questions

The questions in Part I are generally objective, dealing as they do with client demographics and facts about the context in which the assistive device is being used. The questions in Parts II and III regarding client satisfaction are subjective only. Objective information regarding client's performance with the device is not recorded which is not the purpose of QUEST.

Part I: How frequently do you use this assistive technology device (ATD)? (always, frequently, sometimes, rarely, or never) Did you participate in the selection of this ATD? (yes, no, or not applicable)
Part II: Client rates importance of 24 different variables related to client satisfaction with this ATD, on a 1 to 5 scale. Variables include: simplicity of use, durability, appearance, follow-up services, and motivation.
Part III: Clients rate degree of satisfaction of the same 24 variables for this ATD, also on a 1 to 5 scale.

Accommodations

Accommodations required by the client in daily life are reported by the client, with perhaps supplementary information provided by the clinician if known.

Interpretation of Data (process)

Some very general guidelines are provided in the user manual, but as mentioned above, the entire aspect of data interpretation is largely under development.

Reported Reliability and Validity

The authors report that psychometric evaluation of QUEST is ongoing but not yet complete.

Cost: QUEST is not yet commercially available from a publisher because is it currently being tested and validated.

Advantages

QUEST appears to address the concept of client satisfaction in a quite comprehensive way, by tapping into the construct of satisfaction through 24 separate variables. This allows the results to give more specific insights into the reasons behind the client's satisfaction (or lack thereof), which adds greatly to the usefulness of the evaluation.

QUEST also attempts to accommodate the fact that different aspects of satisfaction have different levels of importance to different clients. So in addition to rating satisfaction with each variable, clients are asked to rate how important each variable is to them. This allows the clinician to assess the extent to which the most important issues are being successfully addressed with this client. The background information collected in Part I is appropriate and useful way to understand the context in which the device is being used. This may be critically important in understanding the satisfaction results.

There is possible value in QUEST as a research tool in that it permits analysis of possible relations between and among satisfaction variables. Furthermore, from both a clinical and research perspective, future applications of QUEST could provide a means of assessing user satisfaction and to empirically link it to performance, use and quality of life.

Disadvantages or Limitations

QUEST is relatively simple to administer, but it does take an estimated 45 minutes to an hour to complete for a single device. For a client with several major ATD's (e.g., computer, ECU, seating system), the time involved may be significant. The richness of the data, at least with respect to client satisfaction, may warrant this time expenditure. I had questions about the interactive methods used to elicit responses in Parts II and III, specifically the physical card sorting and sliding bar. The physical materials may make the task more interesting and engaging to the client, and may help in comprehension of what is being asked, resulting perhaps in more valid responses. They also look fun. More information would be helpful to have about the authors' rationale for devising these methods; this would be a nice addition to the user manual. If in fact these methods improve the validity of responses, this has negative implications for administering QUEST over the phone, which might be something desirable to do for some clients but this would be a different form of administration which perhaps should be validated before adopted.

A major limitation, which the authors are currently working to address, is the lack of guidelines for interpreting the data. A certain amount of useful information could be gained from the raw data. But given the multivariate nature of the data, specific guidelines and/or tools for analyzing it are necessary to reveal the full story it tells.

Special Accommodations

As noted by the authors, special administration techniques must be used for clients who have trouble manipulating the cards or otherwise interacting with the physical materials used to elicit responses in Parts II and III. It would be interesting to determine if these alternative methods result in equally valid and reliable data

Recommendations for Future Use

QUEST has the potential to be a useful instrument for measuring client satisfaction and to provide clinicians with meaningful results that can be used to enhance assistive device-prescribing practices, clinical interventions and clinical outcomes providing clinicians prove able to devote the necessary time to its use. The authors appear well aware of the areas requiring further development and are already occurring.

CONTACT INFORMATION

Source

QUEST is provided by the authors at the Universite de Montreal, l'Institut universitaire de geriatrie Montreal.

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ASSESSMENT FORM

QUEBEC USER EVALUATION OF SATISFACTION WITH ASSISTIVE TECHNOLOGY (QUEST)

Demers, L., Weiss-Lambrou, R., & Ska, B.

User's name: ______________________________

File number: ______________ Telephone number: ______________

Address: ______________________________

____

Evaluator's name: ______________________________

Date of evaluation: ______________________________

Assistive technology device (ATD): ______________________________

____

____

QUEST part 1: General information

User	
1 Date of birth	(year/month/day)
2 Age	______________ years old
3 Sex	☐ F ☐ M
4 Disabilities	☐ motor ☐ sensory and perception ☐ cognition ☐ language ☐ behaviour ☐ others:

5 Participation in selection of ATD:	☐ yes ☐ no ☐ non-applicable
6 Functional problem areas:	☐ meal preparation ☐ eating ☐ hygiene ☐ dressing ☐ communication ☐ house work ☐ mobility ☐ transportation ☐ others

Assistive technology device	
7 Frequency of use:	☐ always ☐ frequently (every day) ☐ sometimes (1X/month <-1X/week) ☐ rarely (<1X/month) ☐ never
8 Previous experience with other ATD of the same kind	☐ yes, specify ☐ no

QUEST part 2: Importance ascribed to satisfaction variables

does not know non applicable 6

not satisfied at all 1	not much satisfied 2	more or less satisfied 3	quite satisfied 4	very satisfied 5

QUEST part 3: Rating of satisfaction variables

does not know non applicable 6

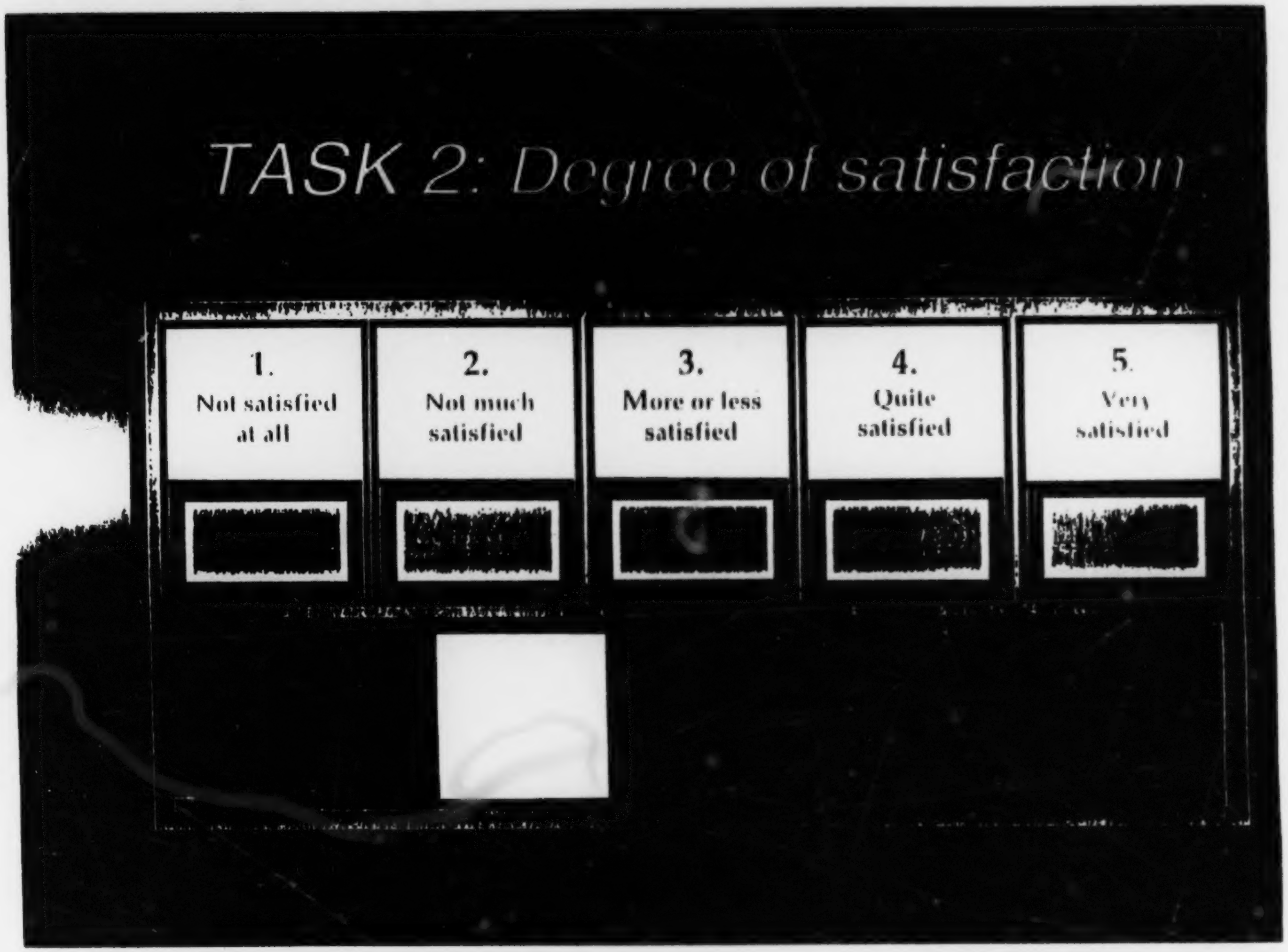
of no importance 1	of little importance 2	more or less important 3	quite important 4	very important 5

Degree of Importance		[illegible] satisfaction variables [illegible]	Degree of satisfaction		[illegible]
1 2 3 4 5	6	1. **Simplicity of use** Ease in using the ATD	1 2 3 4 5	6	
1 2 3 4 5	6	2. **Repairs/servicing** Ease in having the ATD repaired and serviced	1 2 3 4 5	6	
1 2 3 4 5	6	3. **Maintenance** Simplicity of upkeep and care of the ATD by oneself	1 2 3 4 5	6	
1 2 3 4 5	6	4. **Installation** Simplicity to assemble and/or set up the ATD	1 2 3 4 5	6	

TASK 1: Degree of importance

1.	2.	3.	4.	5.
Of no importance	Of little importance	More or less important	Quite important	Very important

Does not know
non-applicable



TASK 2: Degree of satisfaction

1.	2.	3.	4.	5.
Not satisfied at all	Not much satisfied	More or less satisfied	Quite satisfied	Very satisfied

Instrument: **Assistive Technology Evaluation Team -(One Month Follow Up)**
Assistive Technology Follow-Up Survey

Author: Submitted by Rebecca Taggart
The Rehabilitation Center

Reviewer: Tony Langton

Format of Instrument

Letter sent to client asking for ratings from 1-5 on 8 areas with small space for comments at the end. The Follow-Up Survey asks 10 specific questions and two questions on rating the device itself and reporting on use by client.

Domain(s) Satisfaction with services, evaluation, and device.

Purpose To determine client's satisfaction.

Population Clients received services from the clinic.

Setting of Administration

Mailed to the client's home at intervals of one month, sixth month, and twelfth month after service provided.

Materials and Tools Required: none other than postage, paper, envelopes.

Method: also see Setting of Administration

Overall the forms seems to be functional and I recommend that they be used consistently as part of an overall quality improvement feedback effort. There apparently is still some experimenting going on with what forms to use and how to use them. Since we're talking continuous quality improvement that translate into continuously working to modify and improve methods and techniques as well.

Form one (AT Evaluation Team) as explained attempts to get feedback on the evaluation itself (not the equipment or follow-up intervention). This stands alone but would be more effective as part of a systematic effort to also gather referral source feedback as well. Right now only the consumer is contacted. Obtaining feedback at the end of the evaluation itself should also be done. This could be used to start the process and automatically trigger the 30 day follow-up. A consideration in using the 30 day time frame would be whether implementation of the evaluation results have had enough time to take place. This is difficult because the longer you wait the more difficult it is for clients/referral source too recall specific details of what occurred during the assessment, which would give better information to work with.

1) Identifying Information: Client name and reason for referral would, I assume, be filled out before being sent to the person. The nature of the technology intervention would be my biggest concern. There often are several interventions that could occur and it is important to have the client focus their feedback on a specific intervention. It is very likely that 2-3 things could have been done very well but the one thing that had problems could influence other feedback unless they are clearly distinguished. The other issue is remembering actually what occurred.

2) Use of open-ended items offers both advantages and limitations. On the plus side, individuals can offer insights and use observations that checklists and Likert scales would fail to collect. The drawbacks are the 1) additional time needed to review, analyze and then attempt to quantify, 2) lower expected return rate due to more time needed to complete.

With either approach use of understandable terms and short, easy tointerpret statements should be emphasized. While "quality of life" is important, what this means to each person will differ and that should be considered. There is always the trade off of keeping things short and easy to respond versus more detailed and often clumsy to get through.

3) Form 2 (Assistive Technology Follow-up Survey) is sent to client at 6 and 12 months after equipment is delivered. This collects the long term impact and possible abandonment concerns.

4) Form 2 -Item #11: I'd suggest a short statement explaining what is wanted rather than a single term. For example, instead of "comfort" try "is the device comfortable to use"? There always are problems with any standard forms - what happens with a device which is not worn, held, or used to get around with - such as a piece of adaptive computer hardware? This should also have a "does not apply" option.

Overall efforts that were described by the author/submitter seemed to be doing an effective job in getting feedback needed to monitor program operation and effectiveness. Changes have been made in the process, such as going to a self-addressed stamped return envelop to increase return rates. Data to determine the impact that changes have had is not yet available.

Accommodations: Survey could be conducted over phone.

Interpretation of Data

Surveys reviewed upon return for monitoring of equipment received, satisfaction, any equipment problems, abandonment, etc. No formal data collection for composite review.

Reported Reliability and Validity: none

Cost n/a

Sample Questions: See instrument.

CONTACT INFORMATION

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Reviewer:
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W. Columbia, SC 29171
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The Rehabilitation Center

Assistive Technology Evaluation Team
One-Month Follow-Up Letter

__________________ recently completed an Assistive Technology Evaluation. We are interested in gathering some information from you about this evaluation and the recommendations made by the team. Please return this form to us in the enclosed, self-addressed envelope.

Thank you,
Assistive Technology Team

Client Name:
Referred for:
Date:

A. Assistive Technology Evaluation:

Please circle one rating for each question. Additional space has been provided for comments at the end of this section.

1.	Did the evaluation address the areas and needs that you were originally concerned with?	1	2 not at all	3	4 very well	5
2.	If any additional areas and needs were addressed during the evaluation, were they appropriate?	1	2 not at all	3	4 very well	5
3.	During the evaluation, was information explained to you in an understandable manner?	1	2 not at all	3	4 very well	5
4.	Were the final recommendations explained to you in an understandable manner?	1	2 not at all	3	4 very well	5
5.	Was the length of the evaluation acceptable?	1	2 not at all	3	4 very well	5
6.	Please give the entire evaluation an overall rating.	1	2 not at all	3	4 very well	5
7.	Would you recommend this service to someone else?	1	2 not at all	3	4 very well	5

8. Additional Comments:

_______________________ Date

_______________________ Signature

ASSISTIVE TECHNOLOGY FOLLOW-UP SURVEY

CLIENT'S NAME:
DATE DEVICE RECEIVED:
DATE FORM COMPLETED:
NAME OF PERSON COMPLETING FORM:
TYPE OF DEVICE/EQUIPMENT:

DIRECTIONS: Please answer the following questions regarding the device/equipment you received as recommended by The Assistive Technology Program at The Rehabilitation Center, Inc. The information will be used to monitor the quality of the service we provide to our clients.

1. Is the device/equipment still in use? YES NO N/A
   If no, why:

2. Have repairs, adjustments or refittings been necessary since you received the device/equipment? YES NO N/A

   If yes, who completed the adjustments?
   Explain repairs:

3. Do you feel safe when the device/equipment is being used? YES NO N/A
   If no, explain:

4. Did you receive adequate training in how to use and care for the device/equipment? YES NO N/A

   If no explain:

5. Are there places where you cannot use the device? YES NO N/A

   If yes, explain:

6. Would you recommend this technology to someone with similar needs? YES NO N/A

   If no, why:

7. Explain how the device/equipment has or has not increased your ability to do things for yourself:

8. How has the device/equipment met your goals and expectations?

9. How has the device/equipment improved your quality of life?

10. How have your goals/expectations changed because of the device (i.e. regarding education, employment, recreation, etc.)?

11. Regarding the device/equipment, please rate each of the following:

	EXCELLENT	GOOD	AVERAGE	FAIR	POOR
A) Comfort					
B) Appearance					
C) Ease of Use					
D) Reliability					
E) Overall Rating of Equipment					

12. Where and how often do you use the equipment?

	No. of Hours Daily	No. of Days of the Week	No. of Days Per Month	Never
A) Home				
B) School/Work				
C) Recreation				
D) Transportation				
E) Other:________________				

Instrument: **Consumer Satisfaction Questionnaire**

Author(s): Jurgen Babirad
Rehabilitation Technology Associates, Inc.

Reviewer: Steve Sprigle

Format of Instrument

Checklist with request for open-ended comments at the end.

Domain(s)

Satisfaction with driver evaluation, driver training and vehicle modification services.

Purpose

To determine client satisfaction in driver evaluation, driver training and vehicle modification services. Client experiences with ten evaluation facilities and twelve vehicle modification vendors are covered by this form.

Results can be used to identify problems with a particular client's services as well as compiling programmatic customer satisfaction information.

Population

Vocational rehabilitation clients having undergone driver evaluation and training.

Setting of Administration

Mailed to the client's home 90 days after the client's case is closed. A SASE is included. A 60% return rate has been achieved.

Materials and Tools Required: none

Method: see Setting of Administration

Types of Data

a. Reporting: subjective information is reported by the client that consists of level of satisfaction (excellent, good, fair, poor).
b. Performance data of device (engineering) as reported by client.
c. User performance - client reports on training services, evaluation services, and vehicle modification vendors.
d. Environmental Resources N/A

Accommodations: Survey could be conducted over phone.

Interpretation of Data (process): Not reported

Reported Reliability and Validity: none

Cost n/a

Sample Questions: Person completing form is asked to check the items that apply and rate them on a scale from Excellent, Good, Fair, Poor, Don't Remember. The first question asks, "How well did your Vehicle Modification Specialist: (and areas to respond (a-g). A and B are included here.

a. explain the services available to you?
b. work with you to identify services you needed to drive or ride in an adaptive vehicle?

Advantages

The form is very concise and able to collect data for multiple agencies and facilities. It should take under 10 minutes to complete. Client's are able to indicate the need for further intervention.

Disadvantages or Limitations

The form collects process oriented satisfaction data, so is limited in scope; it does not directly address equipment or functional issues.

Special Accommodations: N/A

Recommendations for Future Use None at this time.

Contact Information

Source/Submitter
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Page

Rehabilitation Technology Associates, Inc.
Consumer Satisfaction Questionaire

As part of your recent vehicle modification services, you may have dealt with several of the following individuals or organizations. Please check those which apply, and return this questionaire. A self addressed stamped envelope is enclosed Thank you for completing the enclosed questionaire. Your input will help imrpove this program

Your Vehicle Modification Specialist was: Mr. Jurgen Babirad
How well did your Vehicle Modification Specialist

	Excellent	Good	Fair	Poor	Don't Remember
a. Explain the services available to you from ORSC?	☐	☐	☐	☐	☐
b. Work with you to identify services you needed to drive or ride in an adaptive vehicle?	☐	☐	☐	☐	☐
c. Provide services in a timely manner?	☐	☐	☐	☐	☐
d. Treat you professionally and courteously?	☐	☐	☐	☐	☐
e. Explain alternatives and give you the opportunity to make choices regarding service providers and goals?	☐	☐	☐	☐	☐
f. Explain the least cost principle and how it effects your modification?	☐	☐	☐	☐	☐
g. Communicate with you through phone or mail?	☐	☐	☐	☐	☐

Comments: ____________________

____

____

Please indicate who did your evaluation.
Driver Evaluation Services

Were you satisfied with your driver evaluation at:

	Excellent	Good	Fair	Poor	Don't Remember
________ MetroHealth Medical Center: Cleveland, OH	☐	☐	☐	☐	☐
________ Cleveland Clinic: Cleveland, OH	☐	☐	☐	☐	☐
________ St. Francis Hospital: Green Springs, OH	☐	☐	☐	☐	☐
________ Phase VI: Cleveland, OH	☐	☐	☐	☐	☐
________ Northwest Ohio Driver Training: Stryker, OH	☐	☐	☐	☐	☐
________ St. Elizabeth Rehabilitation: Dayton, OH	☐	☐	☐	☐	☐
________ Good Samaritan Hospital: Zanesville, OH	☐	☐	☐	☐	☐
________ OSU: Columbus, OH	☐	☐	☐	☐	☐
________ Miami Valley Rehabilitation: Dayton, OH	☐	☐	☐	☐	☐
________ Drake Center: Cincinnati, OH	☐	☐	☐	☐	☐
________ Other (Please Specify)________________	☐	☐	☐	☐	☐

Comments ____________________

____

____

Please indicate who taught you to drive.

Driver Training Services

Were you satisfied with your driver rehabilitation at

		Excellent	Good	Fair	Poor	Don't Remember
____	Metro Health Medical Center: Cleveland, OH	☐	☐	☐	☐	☐
____	St. Fancis Hospital: Green Springs, OH	☐	☐	☐	☐	☐
____	Phase VI: Cleveland, OH	☐	☐	☐	☐	☐
____	Northwest Driver Training: Stryker, OH	☐	☐	☐	☐	☐
____	St. Elizabeth Rehabilitation: Dayton, OH	☐	☐	☐	☐	☐
____	Good Samaritan Hospital: Zanesville, OH	☐	☐	☐	☐	☐
____	OSU: Columbus, OH	☐	☐	☐	☐	☐
____	Miami Valley Rehabilitation: Dayton, OH	☐	☐	☐	☐	☐
____	Drake Center: Cincinnati, OH	☐	☐	☐	☐	☐
____	Good Samaritan Hospital: Cincinati, OH	☐	☐	☐	☐	☐
____	Other (Please Specify)____________	☐	☐	☐	☐	☐

Comments: ________________________________

____

____

____

Vehicle Modification Services

How well were you serviced by the Vehicle Modification Vendor that installed the equipment in your vehicle.

		Excellent	Good	Fair	Poor	Don't Remember
____	Modified Vehicle Specialists: Toledo, OH	☐	☐	☐	☐	☐
____	Tri-State Mobility: Toledo, OH	☐	☐	☐	☐	☐
____	Gable Lift, Twinsburgh, OH	☐	☐	☐	☐	☐
____	M.C. Mobility: Mentor, OH	☐	☐	☐	☐	☐
____	Truckin Vantasticks: Cleveland, OH	☐	☐	☐	☐	☐
____	Forward Motions: Dayton, OH	☐	☐	☐	☐	☐
____	Van Stop: Fairfield, OH	☐	☐	☐	☐	☐
____	Contemporary Mobility: Columbus, OH	☐	☐	☐	☐	☐
____	New Era: Akron, OH	☐	☐	☐	☐	☐
____	Access Able: Worthington, OH	☐	☐	☐	☐	☐
____	Fitzpatrick Enterprises: Groveport, OH	☐	☐	☐	☐	☐
____	Tri-State Mobility: Canton, OH	☐	☐	☐	☐	☐
____	Other (Please Specify)	☐	☐	☐	☐	☐

Comments ________________________________

____

____

____

____

Date your vehicle was released to the vendor ______________________

Date your completed vehicle was returned to you ______________________

Do you have any ideas or suggestions on how this system could be more helpful? ______________________

May we share your responses with individuals and organizations listed above? ☐ yes ☐ no

Has this service assissted in your obtaining or continuing your employment? ☐ yes ☐ no

If you would like to discuss the vehicle modification service you received from ORSC, please call (800) 987-2753

Other Comments or Suggestions

Instrument: **Mobile Shop Service Evaluation Counselor Feedback**
Mobile Shop Service Evaluation Client Feedback

Author(s): Leonard Anderson, REC, Wichita, KS

Reviewer: Patricia Bahr

Format of Instrument: The format of the evaluation tools is paper and pencil, with some checklists and open ended questions.

Domain(s): The tool were developed and are used at the Rehabilitation Engineering Center, Division of the Cerebral Palsy Research Foundation of Kansas. This is part of the Mobile Shop Project, funded through the State Vocational Rehabilitation Services.

Purpose: The purpose of the tools is to achieve feedback from counselors that refer clients and customers to the Mobile Shop Project, and clients receiving those services, as to the satisfaction and value of services provided.

Population: Vocational Rehabilitation counselors of individuals with disabilities, and those individuals with disabilities, qualifying for State vocational rehabilitation services are surveyed.

Setting of Administration: The evaluation tool is mailed out quarterly to all counselors that have referred clients for services and clients provided services through the Mobile Shop Project. Response rate from counselors has been good. Response rate from clients and customers has been poor, possibly because clients do not realize importance of their feedback to the continuation of the project.

Materials and Tools Required: Pencil/pen is needed to fill out the evaluation tools.

Method: This or similar forms have been used for the eleven years of this project. Response rate is good, as counselors that use the services know that data is used for continued funding of the project.

Types of Data
a. Reporting is by self report by the client or counselor.
b. Performance data of device (engineering) Counselors are asked as to whether a device or fabrication was required as part of the services, then if it solved the problem(s). Clients are asked whether a device was delivered or modified. If so, they are asked whether or not the recommendation, or modification or device solved the problem, if the device or modification could be improved, and how often the device is used.
c. User Performance There are no questions related to user performance by the counselor feedback. The client is asked how often they use the device.
d. Environmental Resources No questions are asked about environmental resources, as the modifications/recommendations are made to the home or work place to improve environmental access. Records of assessments are separate from this tool.

Cost No questions are asked specifically about costs, but they do ask if the counselor considers the Mobile Shop Project to be a valuable resource. Clients are not charged for devices, modifications, or services.

The Mobile Shop Project is funded through the Kansas Rehabilitation Services. All cost are covered under the grant except for materials. Counselors are given a "not to exceed" estimate for material costs before devices or modifications are provided.

Sample Questions:
Counselor Feedback Were you present when the service(s) were provided Service Date(s):, Description of Service:, Did you have difficulty scheduling the services?, Did you find Mobile Shop personnel to be knowledgeable, professional and helpful? Extremely ___, Very ___, Average ___, Below Average ___, None ___. Did you receive adequate service documentation? If not, explain.
Client Feedback All question are subjective, except for "How often do you use the device?" Other questions: Has your counselor shared with you information received as a result of the visit by Mobile Shop personnel? Did you find Mobile Shop personnel knowledgeable, professional, and helpful?

Interpretation of Data (process): Data regarding types of services, types of settings, counselor referral base and number of clients served are tabulated and reported to the State grant manager. The grant manager makes recommendations for changes in the form. For example, the staff member providing the service has been added to the form. The information has been used to justify continued funding of the project.

Reported Reliability and Validity: N/A

Source: N/A

Advantages: The survey are simple, one page forms that provides basic feedback on customer satisfaction, staff performance, scheduling delays, service documentation, problem solving and if the service is valuable. Counselors know how important it is to complete the forms, so compliance is good. Response rate of clients is poor.

Disadvantages or Limitations: Client response rate is poor.

Recommendations for Future Use:
Counselor Feedback: It may be easier to categorize services if a check list of commonly provided services was provided. Depending on the need for staff evaluation, you may want to ask the three parts of question #2 separately.
Client Feedback: Since many of the clients served have cognitive deficits, the form may need to be modified to reach their cognitive level. You may want to investigate the cognitive level of the majority of your clients and see if the form can be rewritten to that level. Even though the type face is large than 12 point type, this may need to be increased, again, dependent upon cognitive level. You may want to use symbols to indicate yes/no, good/bad like /dislike, e.g., smiley face.

Volunteers or staff may need to review the form with clients on site. Client may also feel more free with criticism if the form was anonymous.

CONTACT INFORMATION

Contact Information for Leonard Anderson and Patricia Bahr follows next review.

MOBILE SHOP SERVICE EVALUATION
COUNSELOR FEEDBACK

Counselor: ______________________________

Client: ______________________________

Service Date(s): ______________________________

Description of Service: ______________________________
____
____

1. Were you present when the service(s) were provided? Yes____ No____

2. Did you find Mobile Shop personnel to be knowledgeable, professional, and helpful? Extremely____ Very____ Average____ Below Average____ None____

3. Did you have difficulty scheduling the services? Yes____ No____
   If Yes, explain: ______________________________
   ____
   ____

4. Was the waiting time for services acceptable? Yes____ No____

5. What do you feel is a reasonable length of time to wait for services?
   ____

6. Did you receive adequate service documentation? Yes____ No____
   If not, explain: ______________________________
   ____
   ____

7. Was a device or fabrication required for these services? Yes____ No____
   If so, how well did it solve the problem(s)?
   Comment:
   ____
   ____

8. Do you consider the Mobile Shop Project to be a valuable resource to you and to your clients? Yes____ No____
   Comments (Optional): ______________________________
   ____
   ____

MOBILE SHOP SERVICE EVALUATION
CLIENT FEEDBACK

Name:____________________ Date:____________

Counselor:________________ Date of Service:________

Description of Service:____________________
____
____
____

1. Did you find Mobile Shop personnel knowledgeable, professional, and helpful?
   Extremely___ Very___ Average___ Below Ave___ None___

2. Has your counselor shared with you information received as a result of the visit by Mobile Shop personnel? Yes___ No___

   If so, was the information helpful? Yes___ No___

   If not, why not? (Explain)____________________
   ____
   ____
   ____

3. If a device was delivered, or a modification made, was its use adequately expained to you?
   Yes___ No___

4. Does the recommendation/modification/device solve the problem? Yes___ No___

   If not, explain:____________________
   ____
   ____

5. Could the device or modification be improved? If so, how?
   ____
   ____
   ____

6. How often do you use the device?
   Several times a day____ Once a day____ 2 times a week_____

USE BACK FOR ADDITIONAL COMMENTS - THANK YOU

Instrument: **Slide Package Evaluation Form**
Videotape Evaluation Form

Author(s): Leonard Anderson

Reviewer: Patricia Bahr

Format of Instrument: The format of the Slide and Video evaluation tools is paper and pencil, with some checklists and open ended questions.

Domain(s): The tools were developed and used at the Rehabilitation Engineering Center, Division of the Cerebral Palsy Research Foundation of Kansas, Inc. The slide package evaluated are federally funded through the Rehabilitation Engineering Research Center, focusing on Vocational Rehabilitation.

Purpose: The evaluation tool is used to achieve feedback from counselors and employers that view the slide or tape package, as to satisfaction and value.

Population: The videotape is geared to employers and vocational counselors, to introduce criteria for reasonable accommodation.

Setting of Administration: The slide and video packages are checked out for viewing in the work setting. The evaluation tool is sent to individuals that check them out. The tape is not copyrighted and can be copied for viewing elsewhere.

Materials and Tools Required: Pencil/pen is needed to fill out the evaluation tools.

Types of Data collected is from self report. The information from this tool is compiled and used for reporting to the funding source.

Environmental Resources: A scaled questions is asked as to whether or not the presentation gave the viewer a more positive attitude regarding persons with disabilities in the workplace.

Reported Reliability and Validity: N/A

Source: N/A

Cost: This project is federally funded by the Rehabilitation Engineering Research Center.

Sample Questions: Please check all of the following which apply to you: male, female, over 21, under 21, employer, voc. rehab. counselor, other Rehabilitation Professional, person with a disability, parent of person with a disability. Presentation was well organized (scaled 6 to 1) strongly agree to strongly disagree. What were the special strengths of the presentation? What changes would you recommend?

Advantages: The evaluation tools are simple, one page form that provides demographic information, presentation feedback and open ended questions for comments. After viewing the presentation, the question about attitude makes people think about their prejudices.

Disadvantages or Limitations: One slide or video package cannot cover all topics related to work accommodation or disability types, so comments indicate the need for more specific information.

Special Accommodations: The slide package comes with an audio tape and written narrative. The videotape is captioned.

Recommendations for Future Use: If you have blind or low vision information on the slide or video package, it may be appropriate to have the evaluation tool available in large print or Braille. If consistent requests are made for information on specific topics, you may you may have justification for development of more slide or video packages.

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Reviewer
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612 636 9443

RESPONSE TO THE REVIEW

Patricia Bahr's descriptions of the instruments are accurate. Related to the evaluation forms used for the videotape and slides, the will no longer be used as of next May 31, 1998 (coincidental with the end of our current RERC grant). Therefore, I do not plan to make any changes. Patti's commments as to the form being available in alterative formats is valid and we will attempt to do that with future evaluation forms that might be generated. Related to the evaluation forms used in the Mobile Shop Project, Patti's comments as to the forms being easier to understand for persons who do not have the appropriate or matching cognitive skills has generated some thought. We have not identified that as a specific problem, but suspect that it is so. In the future, we will pursue return of the evaluation forms more rigorously and ascertain as to whether we need to receive a verbal response such as telephone interview. Regards,

--- Leonard Anderson

REHABILITATION ENGINEERING RESEARCH CENTER
~~2021 N. Old Manor~~ 5[illegible] E. 21st
Wichita, Kansas 67208

SLIDES PACKAGE EVALUATION FORM

Please return after viewing the slides in this package

PACKAGE TITLE: "ACCOMMODATIONS IN THE WORKPLACE FOR PERSONS WITH DISABILITIES"

A. Please check all of the following which apply to you:

_____ Male _____ Female

_____ Over 21 _____ Under 21

_____ Employer _____ Voc. Rehab. Counselor

_____ Other Rehabilitation Professional

_____ Person with a disability

_____ Parent of person with a disability

B. The intent of this package is that it will be informative to you. Please rate the package on the following by circling the appropriate number for each item.

	Strongly Agree					Strongly Disagree
	6	5	4	3	2	1
1. Presentation was well organized	6	5	4	3	2	1
2. Presentation was informative	6	5	4	3	2	1
3. Presentation has given me a more positive attitude regarding persons with disabilities in the workplace	6	5	4	3	2	1

C. Comments: (Use back side of paper if needed)

1. What were the special strengths of the presentation?

2. What were the weaknesses of the presentation?

3. What changes would you recommend?

4. Other comments:

REHABILITATION ENGINEERING CENTER
~~2021 N. Old Manor~~ 5 [illegible]
Wichita, Kansas 67208

VIDEOTAPE EVALUATION FORM

Please return after viewing the videotape in this package

VIDEO TITLE: REASONABLE ACCOMMODATIONS FOR PERSONS WITH DISABILITIES:
"WHAT DO YOU MEAN, REASONABLE?"

A. Please check all of the following which apply to you:

_____ Male _____ Female

_____ Over 21 _____ Under 21

_____ Employer _____ Voc. Rehab. Counselor
_____ Other Rehabilitation Professional

_____ Person with a disability

_____ Parent or friend of person with a disability

B. The intent of this video was that it would be informative to you. Please rate the presentation on the following by circling the appropriate number for each item.

	Strongly Agree 6	5	4	3	2	Strongly Disagree 1
1. Presentation was well organized	6	5	4	3	2	1
2. Presentation was informative	6	5	4	3	2	1
3. Presentation has given me a more positive attitude regarding persons with disabilities in the workplace	6	5	4	3	2	1

C. Comments: (Use back side of paper if needed)

1. What were the special strengths of the presentation?

2. What were the weaknesses of the presentation?

3. What changes would you recommend?

4. Other comments:

Instrument: **"How Did We Rate?" Star Program**
STAR Program Mobile Outreach Intake Form
ACCESS Data Base Star Program

Author: Submitted by Patricia Bahr, STAR Program, Minnesota

Reviewer: Jan Galvin

1st Instrument (1 of 3) How Did We Rate?
(All 3 instruments have similar format and domain.)

Format of instrument: Pencil & paper, some open ended questions.

Domain(s) Gillette Technology Center, New Brighton, MN

Purpose: To gather information on demographics, consumer satisfaction and need for further or other services.

Population: Underserved rural individuals with disabilities of all ages.

Setting of administration: Mobile Outreach Program

Materials and Tools Required: Pen and paper

Method

This instrument "How Did We Rate" is filled out by the client and/or caregiver after visit to mobile outreach clinic. It asks basic information such as who is completing form, clinic site, type of disability, type of services provided, what AT they currently use, how they found out about the clinic and how the staff/clinic and service rates.

The form has evolved over ten years and has been reviewed by consumers to ensure language used and questions asked are appropriate.

Types of Data:
a. Reporting: Self reporting, subjective
b. Performance data of device (engineering)
c. User performance: Information on disability
d. Environmental Resources

Cost Cost of photocopying, mailing. Minimal.

Accommodations N/A

Interpretation of Data (process): Response rate is low, mainly because clients and caregivers are given the same form each time they visit and feel they have already answered the questions. The data that is returned is reviewed by a Community Advisory Group, who make suggestions for improvement based on the data.

Reported Reliability and Validity: N/A

Sample Questions:
What type of disability does the person have?
How did you find out about the clinic?
What services would you like to see added to future clinics?

Advantages:
- Simple form, easy to fill out
- Provides good basic data

Disadvantages or Limitations

- Form is somewhat mundane and clients often ignore it. They consider they filled it out once and don't need to again.

Recommendations for Future Use

The form itself does exactly what it is supposed to do. However, the creative way the data is used to improve services is very good. A consultant was hired to work with the Community Advisory Group to help them become more focused. They have evolved into a self-directed advocacy group, who have used the data to recommend improved signage at clinics, streamlined paper flow, better scheduling process and have directed funding specialists toward community grants.

I would recommend a couple of approaches to improve compliance with filling out the forms.

1. Provide forms in a different color for each visit so it looks different.
2. Send form to home of client ahead of time with form letter explaining the somewhat shaky funding for clinics like this and that great value is placed on there input, which could help to secure future funding.
3. Have staff member or volunteer at clinic site spend time with client to explain necessity for the information.
4. Ask Community Advisory group help in getting compliance, they may have some creative ideas.

2nd Instrument: STAR Program Mobile Outreach Intake Form

Purpose:

1. To identify if Clinic is successful in outreach to individuals with disabilities who are minorities, who have diverse types of disabilities and come from multiple counties within Minnesota;
2. To ascertain if advertising is effective.
3. To identify other needed disability/rehabilitation services.

Population: Minnesotans of all ages and disabilities who are mainly living below the poverty line.

Setting of Administration Outpatient: Mobile Outreach Clinic

Materials and Tools Required: Pen & Paper

Method

This form was developed in part as a response to grant funding to identify and ensure outreach to minorities, to individuals with diverse disabilities and are underserved populations in very rural counties of Minnesota.

Side One of the form is completed by the practitioner working with the individual. It covers type of service requested, level of service, a summary of the consultation, suggestions for follow-up and referral source.

Side Two of the form is completed by the individual and the people accompanying the client to clinic. This could be caregiver, teacher, social worker, or the whole team; type of service requested, referral source, and other AT in use.

The last two questions on this form concern how far the client travels for other services such as orthotics, or to see a physician; and, what other services they would like to added to future clinics.

Types of Data: (objective or subjective for each below)

a. Reporting Objective by practitioner on side one
Objective self reporting on side two

Interpretation of Data (process)

Responses from both sides of this form are coded for data entry into database(see ACCESS database instrument)

Cost: minimal

Sample Questions:

- Has client ever been seen through Gillette Children's Specialty Healthcare in the past?
- How far in miles do you travel to see Physician?

Advantages

Clearly identifies outreach to rural underserved populations, documents client supports such as teachers who may come to clinic with individual and identifies how far individual travel to receive services. For example an it is not unusual for a frail individual who uses a wheelchair to be transported 180 miles for certain services. This type of documentation is then used to look at how many individuals from a particular area or residence are traveling this distance and whether it would be cost-effective to hold clinic at that residence. This reporting also notes the type of services requested for future clinics to assist Gillette in strategic planning.

Disadvantages or Limitations

I saw no place to identify payment source although I was informed that primary and secondary funding sources are Medicaid and Medicare.

Recommendations for Future Use

I would like to see a way for those who are accompanying the client, i.e. team members to have a way of documenting the value of the service, and if they learned anything that they could put into practice or identify areas for in-servicing.

This type of form which documents how far people have to travel for a variety of necessary services, how poor most of them are, and how extremely rural their homes are, becomes important not only to Gillette in a proprietary level but also to State Government to help formulate policies for improved rural service. (See Access Database Instrument)

3rd Instrument: Data Entry Star Program

Format of Instrument Computerized entry

Purpose: To compile data to be searchable by variety of criteria.

Population: From Intake form

Setting of Administration Outpatient: Mobile Outreach clinic

Materials and Tools Required: Data entry materials

Method

This ACCESS database takes coded information from Intake form. This is a fairly new process. Data commonly requested: Number of clinics; Number clients seen during specific time frame; type of services provided; insurance billing amount; and status of recommendations.

Types of Data: Objective data is collected on functional aspects of client and disability.

Advantages

Excellent way of tracking patients; service provided; outreach, etc. Also good for identifying if recommendations have been followed-up and acts as a reminder to follow-up.

Disadvantages or Limitations

Data only as good as provided by client and providers. Not totally comprehensive.

Recommendations for Future Use

Need to get 100% compliance to provide good data. Need to track true costs of service. This would assist with strategic planning and would be useful for funding sources.

CONTACT INFORMATION

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(612) 291-2848

A System of Technology to Achieve Results.

A program of the Minnesota Governor's Advisory Council on Technology for People with Disabilities

How Did We Rate?

1. Date:________________________

2. Person filling out form:____
   __ Person w/disability
   __ Professional
   __ Other____
   __ Caregiver
   __ Family

3. Clinic Site:____

4. What type of disability does the person served have?
   __ Cerebral Palsy
   __ Walking
   __ Talking
   __ Vision
   __ Hands/arms
   __ Hearing
   __ Mental
   __ Other________________

5. What was the individual evaluated for or provided with?
   __ Orthotics
   __ Seating and positoning
   __ Job site modifications
   __ Communication devices
   __ Prosthesis
   __ Other____
   __ Computer Access
   __ Mobility Devices
   __ Adaptive toys/games
   __ Architectural Access
   __ Daily Living Aids

6. What type of equipment does the person served use?
   __Walker
   __Manual w/ch
   __Augmentative Comm. Device
   __Adapted Rec. Equipment
   __Prosthesis (Artificial limb)
   __Other____
   __Powered w/ch
   __Computer
   __Orthosis (brace)
   __Job Site Adapts.

7. How did you find out about the clinic?
   __Flier
   __Follow up Appointment
   __Other____
   __Newspaper Add
   __Word of mouth

8. Please rate the following:
   (if no, please tell why in comments)

	Yes	No
Did the clinic meet your expectations?		
Was the staff responsive to needs?		
Were you treated in a respectful way?		
Was the staff knowledgable?		
Did you recieve adequate funding information?		
Was the physical setting accessible?		

Overall, how would you rate the clinic?________________________
____

9. What services would you like to see added to future clinics?
____
____
____

10. Comments:____
____
____

Client Name:
GCH MR #:
CPI #:

Date ______________________ **Location (City):** ______________________

Type of Service Requested

___ Aug Communication
___ Home/worksite modifications
___ Aids for Sensory Impairment
___ Other ______________________________________
___ Equipment Positioning
___ Computer Access
___ Orthotics
___ Recreational Aids
___ Seating
___ Environmental Controls
___ Prosthetics
___ Aids for Daily Living

Service Level: ___ Information ___ Evaluation/Consultation ___ Equipment measure
___ Equipment delivery ___ Equipment Repair/Replace
___ Other ______________________________________

Service Summary/Consultation ______________________________________

Suggestions/Future Plan: ______________________________________

Refer to Gillette?: ___ Outpatient ___ Inpatient ___ Next Outreach Clinic
___ Another Outreach Clinic ___ Other ______________________

Hand outs given: ______________________

Hand outs to send: ______________________

Staff Member ______________________
Title ______________________
Phone # 800-578-4266

STAR Mobile Outreach Chart Note

Please Complete This Side Only

Client Name ______________________	Social Security # ______________________
Street Address ______________________	County of Residence ______________________
City, State, Zip ______________________	Phone # ______________________
Date of Birth ______________________	Race ______________________

Diagnosis ____

Contact Person ______________________	Relationship ______________________
Street Address ______________________	County of Residence ______________________

City, State, Zip ____

Phone # ______________________	Is this person present at appointment? ________

People Accompanying Client to Clinic

Name: ______________________	Company/School/Etc ______________________
Address: ______________________	Address: ______________________
City, State, Zip: ______________________	City, State, Zip ______________________
Professional Designation ______________________	County ______________________
Home Phone ______________________	Work Phone ______________________

Name: ______________________	Company/School/Etc ______________________
Address: ______________________	Address: ______________________
City, State, Zip ______________________	City, State, Zip ______________________
Professional Designation: ______________________	County ______________________
Home Phone ______________________	Work Phone ______________________

Has client ever been seen through Gillette Children's Specialty Healthcare in the past?
Where?:

Service Requested Today
___ Aug Communication
___ Home/worksite modifications
___ Aids for Sensory Impairment
___ Other ______________________________
___ Equipment Positioning
___ Computer Access
___ Orthotics
___ Recreational Aids
___ Seating
___ Environmental Controls
___ Prosthetics
___ Aids for Daily Living

How did you find out about this clinic? ___ Newspaper add ___ Flier ___ Word of Mouth
___ Referral from ______________________________ ___ Other ________________

What other providers of assistive technology do you use? (answer all that apply)

	service provider	How far (in miles) do you travel for the service?			
for orthotics	______________________	___ <25	___ 25 to 50	___ 50 to 100	___ >100
for seating	______________________	___ <25	___ 25 to 50	___ 50 to 100	___ >100
for therapy	______________________	___ <25	___ 25 to 50	___ 50 to 100	___ >100
for physician	______________________	___ <25	___ 25 to 50	___ 50 to 100	___ >100

What other services would you like to see added to future clinics?

Physical Med and Rehab Physician Consultations	Orthopedic Physician Consultations
Occupational Therapy Consultations	Physical Therapy Consultations
Speech/Language Pathology Consultations	Other

STAR Mobile Outreach Intake

Instrument: **Guide to Assessing Rehab Tech Program Quality**

Author(s) Center for Rehabilitation Technology Services:
Cynthia Flynn, Randy Lamkin, Roger McGrath

Reviewer: Alexandra Enders

Format of Instrument

Comprehensive 30 page Workbook from which a CQI process, and data collection forms, can be developed and customized for an individual rehabilitation technology service. An addition, a document is available which includes descriptive overview of the rationale, protocol, and genesis of the development and testing of the Workbook and CQI process promoted.

Domain(s) Effectiveness, efficiency, customer satisfaction related to value.

Purpose

"Help rehabilitation technology service providers measure and improve the quality of their services" by developing a coherent quality improvement process.

Population

Oriented toward rehabilitation technology service providers working with vocational rehabilitation agencies, but has enormous potential to be adapted for use by rehabilitation technology service providers in any environment, with any population.

Setting of Administration: Individual

Materials and Tools Required: Workbook, pen, photocopier?

Method

Methodologically, these materials focus on "how to improve quality" and include:

- Measurement Categories Recommended and described in the Workbook include:

Satisfaction: development of separate forms for clients, counselors, employers. (subjective)

Effectiveness: development of separate forms for clients, counselors, employers. (subjective)

Efficiency: development of data collection for direct costs (time, fabrication materials) contracted services, other costs, client data and ID, services provided and timelines, degree of functional limitation, services provided. (objective)

More detailed descriptions of each measurement category is provided in accompanying document. In addition, guidance on who should be surveyed, survey and interview administration, improving the return rate is included in Workbook.

Sample flow charts of the major steps and substeps in a rehabilitation technology service delivery process are included, as well as how to develop a flowchart.

Interpretation of Data (process)

Step 5 of the Workbook: Analyzing the Data, is a mini primer on the role of variation in quality improvement, and includes information on control charts. The material does not tell you how to do data analysis, but instead explains what you need to be looking for and why. It also makes the suggestion to use a personal computer spreadsheet program for data analysis, and knowing when you need more training in statistical process control. Steps 6, 7, and 8 provide brief advice on making continuous improvements, evaluating results, and keeping everyone informed.

Reported Reliability and Validity

This CQI process has been field tested in three states, and it is believed that it can be adapted and implemented successfully in a rehabilitation technology program in a Vocational rehabilitation agency.

Cost: Check with CRTS. Workbook could potentially be a part of technical assistance activities.

Sample Questions: N/A

Advantages/ Strengths:

These documents clearly lay out a flexible and adaptable process that an agency or even an individual service provider could use to develop a customized and locally useful continuous quality improvement process. The material could readily be adapted beyond its intended environment of rehabilitation technology services in vocational rehabilitation agencies. Each agency developing a CQI process provides operational definitions for the items to be included. So even if the same language is used in two agencies, they may not mean the same thing. This of course has the drawback on not being able to either aggregate data more broadly, or to compare performance across entities. But this is specific considered a plus in the CQI process - the workbook specifically provides a"Cautionary Note on the Limits of this Methodology" (p.8) stating: "We have developed measurement methodology for direct service providers who want to improve the quality of their services. We have not designed it for the manager's program evaluation, reporting, or control purposes."

Two of the most interesting contributions, are the clearly stated equations for defining the relationship of quality and cost : Value = Quality/Cost $V = Q / C$; and an operational definition of quality: Quality = Satisfaction x Effectiveness $Q = S \times E$. And then providing guidance for the development of both process and outcome measures in the context of rehabilitation technology service delivery, using these equations.

The Workbook is designed to guide would-be quality improvers through the hows and whys of developing a customized CQI process, with plenty of specific suggestions and examples for implementation Although emphasizing flexibility, and inclusion of local factors, it is solidly based on clearly stated philosophical principles: proper identification of the customer, and appropriate use of data collection for quality improvement purposes.

The process presented in the workbook is impossible to implement without a team of people committed to CQI. It is not a process that can be developed or implemented, then done to people. A positive feature of the process is that it only includes cost measures which technology service providers have some control over, and therefore have some ability to change as a result of the CQI process.

Disadvantages or Limitations

Step 5, on data analysis, would benefit from specific references to further reading, and on what to look for in hiring a consultant or obtaining further analytical training for staff. Any group who has gone through the process to the point of data analysis, is probably motivated to maximize their considerable investment. Guidance in this area, which may be far removed from the skills of the average rehabilitation technology service, is needed.

Steps 6, 7, and 8 on making continuous improvements, evaluating results, and keeping everyone informed, would benefit from more detail. They could at least refer to specific sections of the books listed in Appendix B Recommended Reading for Quality Improvement. The last section: What to Expect, On-going?, focuses on group dynamics, and though interesting and relevant, seems an add on to the other more concrete material in the workbook. Unless there were someone on the team with a sociology or psychology background, this type of analysis would be difficult to integrate into the CQI process. The section needs more contextual explanation, perhaps in the accompanying document, and specific references to more information for those interested in organizational group dynamics.

Recommendations for Future Use

This is an excellent set of documents. They should be expanded beyond their initial audience, and made widely available to the rehabilitation technology service delivery field. A technical assistance capacity should be developed and marketed in conjunction with the written materials.

This document was reviewed in final draft form, and will need final details on format, length, etc. Also, more info needs to be provided about the accompanying descriptive, background document, costs, connection with technical assistance, etc. Two transposed paragraphs were found, and brought to the attention of CRTS, but it may be too late to correct them (the document was already at the printers) If they are not corrected, suggest that an errata sheet be included in the front of the document about the misplaced paragraphs on pages 20 and 23.

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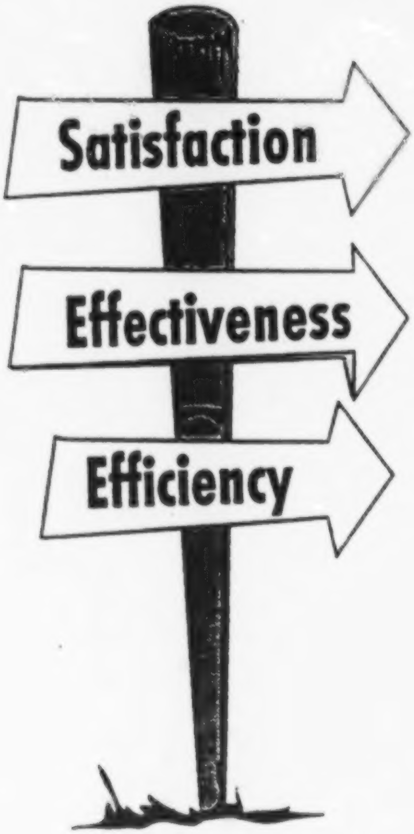
A Guide To Assessing Rehabilitation Technology Program Quality

MEASURING


Satisfaction
Effectiveness
Efficiency

Field Test Edition

October, 1995
Randy Lamkin, Ph.D.

Center for Rehabilitation Technology Services

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I. INTRODUCTION: Why Should Rehabilitation Technology Intensify Quality Improvement and Customer Service?

Why is customer service important?

- The Rehabilitation Act Amendments of 1992 require Vocational Rehabilitation agencies to conduct consumer satisfaction surveys.
- The Rehabilitation Act Amendments of 1992 also require Vocational Rehabilitation agencies to have in place a strategic plan for expanding and improving rehabilitation services. Measurement provides essential feedback about how well the organization is achieving its intended results.
- Providing something of value to end users is the ultimate purpose of any public or private sector organization. Everyone who works in the organization should focus on adding value to consumers.
- Interest in quality improvement and customer service has become so widespread that everyone expects all service providers to demonstrate the elements of good customer service.
- People's negative attitudes toward the public sector have made them more sensitive to the client-provider transaction. People notice and react more strongly to negative experiences. It may be more difficult to prevent negative experiences.

What is a customer?

The term "customer" helps draw attention to the values and importance of the relationship with those people who receive products and services. In a simple retail situation, the customer is the person who buys the services or products of the business. The rehabilitation technology situation, like most public sector, human service organizations, is more complex. The consumer of rehabilitation technology products or services may not make the purchase decision or pay for services. Third parties often get involved. Sometimes people don't exchange money, so the transaction lacks some of the immediacy of retail customer service. These complexities may distract the attention of service providers from the importance of the consumer.

What is the aim of customer service?

The aim of customer service is to meet and exceed customer expectations-to satisfy and, if possible, to delight the customer. Delight builds loyalty.

In the public sector, some agencies, i.e., those that regulate individuals and businesses, collect taxes, incarcerate prisoners, etc., provide a "service" that the consumer of those services does not want. Customer satisfaction goals in these cases are different. Those who provide these services focus on the more formal elements of the customer-provider transaction, strive to maximize efficiency, and minimize the negatives. Rehabilitation Technology does provide a service that the consumer wants and therefore does not face restricted goals.

What if the service provider considers the customer's expectations to be unrealistic? Usually this means that the customer's expectations exceed the capability (the mission or resources) of the organization. This conflict must be dealt with through negotiation to reach a mutually acceptable service agreement.

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Who are rehabilitation technology's customers?

- The client–the person with disabilities who receives rehabilitation technology services–for some is the primary and ultimate customer because without the client there would be no rehabilitation technology system.
- Vocational rehabilitation counselors, for some rehabilitation technology providers, may be the primary customers because they drive rehabilitation technology's contact with the client and they have pivotal influence on the client's satisfaction. Strictly speaking, transactions between rehabilitation technology and the vocational rehabilitation counselor are also provider–customer ones. However, it is better to think of the relationships within the system as "partnerships," so that everyone focuses on the person with disabilities as the true customer.

Why can the customer-provider relationship be so difficult?

- External parties join the relationship with rehabilitation technology and the end users. The most important third parties are those involved in paying for the product or service, i.e., insurance companies and legislative bodies. Other parties include advocacy groups that represent the interests of rehabilitation technology customers.
- The rehabilitation technology service and product delivery system is a complex one involving several relatively separate units, each of which has an influence on customer satisfaction. This creates the problem of multiple responsibility–two or more units or professions with involvement and influence on the customer that are *interdependent*. This can lead to competition or collaboration. Competition can create vicious circles that degrade quality.
- Customer perceptions and provider perceptions may be very different. Rehabilitation technology providers may tend to judge quality by what they know the system can do, what resources are available, and what they think customers *ought* to expect. This can lead them to compete to see whether their perception is right or to collaborate to develop a single, negotiated perception. In a competitive scenario, rehabilitation technology providers perceive customers as having excessive needs, as being too dependent on the provider or provider system. Providers might tend to discount customer expectations and dissatisfactions that would make providers less motivated to satisfy customers.

Why is quality improvement important?

As public accountability has intensified, people have come to believe that quality service is as critical in public agencies as it is in private business. Tax payers, law makers, and agency leaders expect higher levels of productivity without reductions in quality. These expectations have been especially acute for health and human service settings. The debate over health care reform seemed centered on the perceived value of services that people receive for the money that they spend. Pressure is growing for agencies to quantify and prove that resources are being used effectively.

If an organization tries to improve customer service without an overall approach to quality improvement, the result is usually a "smile and be nice" program. This looks only at the people, rather than at the processes and system, that produce services or products. The interpersonal transaction between provider and client is critically important, but the system within which it occurs controls it.

What's the difference between QA and CQI?

Rehabilitation Technology Programs have practiced quality assurance (QA) for many years, so the idea of measuring service quality is not new. However, traditional QA measures only those outcomes that are unacceptable. QA considers other outcomes to be unimportant. QA treats major events, usually complaints or sentinel events (see glossary, Appendix C), as independent occurrences or special outcomes caused by special circumstances. These unacceptable outcomes are investigated as relatively isolated events. People attempt to find out what happened, why it happened, and what were the special circumstances, e.g., who was involved, have they done this before. They often focus on fixing blame rather than solving the problem.

A continuous quality improvement (CQI) approach is systems oriented. In CQI, people are interested in all outcomes, in "the health of the process". CQI sees all major events as outcomes of a system. Measurement and management of all kinds of outcomes are important. The questions that people ask when an unacceptable outcome occurs are: What in our system allowed this to happen? What changes to the system would prevent this or make it less likely in the future? Edwards Deming, one of the world's foremost authorities on quality improvement said, ask "why" five times before you ask "who".

If QA is being done well, then you are ready to move on to CQI!

What is quality and what is value?

A good definition of quality considers both outcome and process (Scholtes, 1988). Do customers get the products and services that they need exactly when and how they need them? How efficient are the processes people use to design, deliver, and maintain products and services? This two-dimensional definition of quality is actually the definition of value.

Value equals quality divided by cost ($V = Q/C$). Quality can be understood and improved only in relation to cost. Changes in cost that do not maintain or improve quality do not add value.

Rather than use the term "value" instead of "quality", we will use the terms interchangeably.

Why is measurement important?

No single "discrete event" of rehabilitation technology service can be properly understood and improved without knowing whether it was from a statistically *stable* or *unstable* process. If a statistically stable process produces an instance of poor service quality, then the proper remedy is to redesign the process, but not to discipline the service provider. Similarly, if a statistically stable process produces an instance of excellent service quality, then the proper response is to reward all who contributed to the process, not just to reward an individual service provider. Quality assurance, complaint management, inspections and most employee reward and recognition programs cannot improve quality without the data to place an event in context. Continuous measurement of outcome quality can provide this data.

What's the purpose of this Guide?

The primary purpose of this guide is to help rehabilitation technology program service providers measure and improve the quality of their services. The main focus is on the measurement of effectiveness, efficiency, and satisfaction. However, to use data appropriately to improve quality, people must incorporate it into an overall process for continuous improvement. Therefore we also provide the outline of such a process.

The Guide looks at rehabilitation technology as a distinct program. We do not look at the overall Vocational Rehabilitation system. Therefore, outcomes and measurements are in relation to closure of the rehabilitation technology case, not the vocational rehabilitation outcome and status.

Instrument: **Consumer Follow-Up: Telephone Assistance Evaluation Form**

Author: Living and Learning Resource Center

Reviewer: Alexandra Enders

Format of Instrument: Paper questionnaire, mailed with material sent to info requester

Domain(s): Satisfaction

Purpose: Satisfaction with telephone consultation service

Population: Targeted to special educators and therapists doing related services

Setting of Administration: phone services from LLRC to homes

Materials and Tools Required: paper and pencil, does not indicate form is available in alternate formats

Method: Self-administered by recipient of services, no indication that active follow up sampling is done by LLRC to collect data.

Types of Data

a. Reporting is subjective, self report.
b. Performance data of device (engineering) N/A
c. User performance N/A
d. Environmental Resources N/A

Cost N/A
Sample Questions N/A
Accommodations N/A

Interpretation of Data (process): not stated, probably just tallied and summarized

Reported Reliability and Validity: N/A

Advantages

Provides some satisfaction feedback on the usefulness of information provided by LLRC to special education professionals. The last question of repeat usage is interesting for doing an unduplicated count of service recipients, but even more, as an indication of satisfaction -- repeat business is a sign of confidence and utility in the service received.

Disadvantages or Limitations:

1. Does not indicate how LLRC services/information could be improved;
2. Does not solicit meaningful complaints: e.g the first question "LLRC staff more than adequately responded to my needs or concerns. Agree or disagree." This has a CQI flavor, about exceeding customer perspectives,

but would be more relevant if it were scaled,
1. Well above and beyond expectations ....
2. More than adequately ....
3. Adequate ....
4. Below adequate ....
5. Did not meet my needs or expectations ....

Then, if 4 or 5 were checked, ask them for a chance to try again:
e.g., Can we call you to try and better address your needs?

Special Accommodations: none noted

Recommendations for Future Use: This looks like a way to collect positive feedback for inclusion in future grant proposals, and in reporting to the funding source, etc., but does not really provide much information for improving the quality of services. It's a gross measure to show if the services are on track, but misses the opportunity to collect useful data on e.g., training and I&R needs of target population (special education professionals).

CONTACT INFORMATION

Source:
LLRC,
1023 South U.S. 27
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Living and Learning Resource Centre

Telephone Assistance Evaluation Form: Special Education

Dear Colleague:

Since 1986, the Living and Learning Resource Centre has functioned as a statewide information, demonstration and consultation center on computer-related assistive technology for special education students.

As a professional who has recently contacted the LLRC for information on assistive technology, your perception of our services is valuable. Please help us evaluate our information services. Let us know how we've helped.

1. The LLRC staff more than adequately responded to my needs or concerns.
   ___ agree
   ___ disagree

2. How did you apply the information you received? (check all that apply)
   ___ used as information only
   ___ used to resolve a problem
   ___ used to provide instruction
   ___ used in the purchase of equipment
   ___ the information raised other issues
   Please share those issues: ____________________

3. How much did you know about assistive technology before you contacted the LLRC?
   ___ very little
   ___ some
   ___ much

4. How did the information received affect your knowledge?
   ___ increased my knowledge
   ___ broadened my understanding
   ___ caused me to change my techniques

5. The information provided has helped me to support the special education student(s) in the least restrictive environment.
   ___ agree
   ___ disagree

6. The information provided has helped me to support the special education student(s) in transition to:
   ___ the community
   ___ higher education
   ___ the world of work
   ___ not appropriate

7. Information received will benefit the special education student(s) in a :
   ___ preschool program
   ___ general education classroom (inclusive education)
   ___ special education resource room
   ___ self-contained or categorical class
   ___ residential school
   transitional program

8. I am a(n):
   ___ special education teacher
   ___ administrator/supervisor
   ___ therapist (please specify) ____________________
   ___ speech-language pathologist
   ___ other (please specify) ____________________

9. I received the information within two (2) weeks.
   ___ agree
   ___ disagree

10. I have called or visited the LLRC more than once.
   ___ yes
   ___ no

Comments and Suggestions: ______________________________
____
____
____

Thank you for responding!

The LLRC is a State-Initiated Project awarded to the Physically Impaired Association of Michigan by the Michigan Board of Education. 11/93

Living and Learning Resource Centre
1023 South US 27
St. Johns, MI 48879-2423

Instrument: **Consultation Performance Evaluation Form**

Author: Living and Learning Resource Center

Reviewer: Alexandra Ender

Format of Instrument: Paper questionnaire, mailed with report to persons involved with consultation

Domain(s): Satisfaction

Purpose: Satisfaction with consultation service

Setting of Administration: Individual's homes.

Materials and Tools Required: paper and pencil, does not indicate form is available in alternate formats

Method

Self-administered by recipient of services, no indication that active follow up sampling is done by LLRC to collect data. Does not indicate if multiple recipients might complete a survey related to a consultative service, or if only person who receives the report is asked to fill out the survey.

Types of Data reported is subjective self reporting.

Interpretation of Data (process): not stated, probably just tallied and summarized.
Reported Reliability and Validity: N/A

Cost: N/A

Advantages: Seems to cover the bases of the process, including questions on pre consultative process.

Disadvantages or Limitations

Special Accommodations: none noted

Recommendations for Future Use

Ask specifically for suggestions on how to improve LLRC consultative services. Include a question like the one from the Telephone Assistance Evaluation Form "I have called or visited the LLRC more than once" to check for return referrals from professionals; and a question like "I would use LLRC consultative services again -- agree or disagree" for both professionals and consumers.

CONTACT INFORMATION

Source:
LLRC,
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Reviewer
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THE LIVING AND LEARNING RESOURCE CENTRE
Consultation Performance Evaluation

Informant Identification: (Please Check)
___Parent ___Client ___Rehab. Counselor ___Sch. Counselor ___Other Professional
Consultation Purpose:
___Communication Device ___Computer Assistance ___Software
Date: ____________________

(Circle the number at the right representing your rating of items listed below. Omit items not applicable.)

Pre-Consultation Process

	Excellent				Poor
Inquiries about request for consultation were responded to appropriately	+ 5	4	3	2	1 -
Pre-consultation questionnaire was mailed promptly	+ 5	4	3	2	1 -
Length and content of pre-consultation questionnaire is reasonable	+ 5	4	3	2	1 -
Consultation appointment was scheduled within reasonable time	+ 5	4	3	2	1 -

Consultation Process

	Excellent				Poor
Client's needs were recognized/understood	+ 5	4	3	2	1 -
Client's family/professional caregivers were included in the consultation	+ 5	4	3	2	1 -
Sufficient consultation time was allotted	+ 5	4	3	2	1 -
Consultant(s) were knowledgeable in their areas of specialization	+ 5	4	3	2	1 -
Appropriate resource materials were made available	+ 5	4	3	2	1 -
Our pre-consultation expectations were met	+ 5	4	3	2	1 -

Post-Consultation Process

	Excellent				Poor
Consultation report was mailed within reasonable time	+ 5	4	3	2	1 -
Consultation report addressed critical issues/concerns	+ 5	4	3	2	1 -
Suggestions were reasonable/realistic	+ 5	4	3	2	1 -

Comments:________________________________
____
____
____

LLRC 7-95

Return this original in 5 days to

Living and Learning Resource Centre
PIAM
1023 South US 27
St. Johns MI 48879-2423

Article: **"Measuring Quality and Performance of Assistive Technology: Results of a Prospective Monitoring Program" and Phone Call Follow-up Form**

Author: Jean Kohn, MD
REC- Packard Children's Hospital @ Stanford

Reviewer Tony Langton

Overall, I found the article very interesting and informative. The discussion reviewed relevant concerns that programs should consider in designing follow-up mechanisms for quality improvement efforts. This article offers excellent information documenting early efforts to track the impact of assistive technology devices.

Conclusions as to the author's opinions as to cost/benefit of the use of telephone follow-up was not clear. It was noted that an estimated 10% of an FTE would be needed to implement the telephone follow-up. Issues of who should do this were discussed, with points raised to support clinicians themselves but also possibility of using another staff position(s). In reviewing comments it would seem advantageous to have clinicians do the follow-up calls themselves. This does commit staff time, however the benefit, based on comments in the article, would seem to justify this.

The forms used seem efficient and easy for clinicians to use. Inclusion of a likert response option could be considered on items 04, 05, 06, 07, 08, and 09. These items presently offer only yes/no or N/A. There ia small area were problems could be noted however it would be useful to offer consumers a greater response range which could be quantified for further analysis. This could reduce the amount of writing that clinicians would have to do in collecting the information. The form did not seem to have enough space to make notes which would then involve attaching other sheets unless this is set up as an online form. That was not discussed so I assume that a paper form was all that has been tried out. There is a trade-off on simplicity versus detailed forms that should be looked at carefully. Using clinicians, or whoever is going to complete the forms to review and recommend what should be included and wording is strongly advised. Regardless of the forms however, there should be a sufficient period of time to try them out to see how they work in actual practice. The general consensus is that no one likes completing forms, but it is possible to increase participation by designed forms/procedures with input and then making changes as needed.

The overall system as described would seem to be a very effective data collection component for a TQM system.

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APPLIED RESEARCH

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Measuring Quality and Performance of Assistive Technology: Results of a Prospective Monitoring Program

Jean G. Kohn, M.D., M.P.H., Maurice LeBlanc, M.S.M.E., C.P., and Paul Mortola, M.S., O.T.R.

Rehabilitation Engineering Center, Lucile Salter Packard Children's Hospital at Stanford, Palo Alto, California

A crucial need in assistive technology delivery is follow-up to determine device performance and satisfaction from the individual with a disability's perception. As part of an overall research project on technology transfer, this investigation was designed to measure and document service delivery outcomes, first in a pilot study at the Rehabilitation Engineering Center (REC), Lucile Salter Packard Children's Hospital at Stanford (LSPCH) with 60 consumers and then in a replication study in four other service delivery centers providing devices to 103 clients. One hundred sixty-three devices were delivered to 163 consumers by five service delivery centers. The results of this investigation indicate that user feedback can be documented through prospective and standardized data collection forms; outcome measures can be helpful in determining user satisfaction and device performance; user responses, compared with clinician evaluations, are reliable perceptions of device performance; provision of the selected assistive devices was demonstrably positive for the majority of device users; and for those individuals not initiating return visits, the phone-call follow-up provided information that would not have been available otherwise to the service providers.

Key Words: Follow-up—Assistive devices—Quality assurance—User satisfaction.

Assistive technology for persons with disabilities has become a major factor in fostering and maintaining independent living, employment, education, and recreation. Some devices formerly made one-at-a-time for persons with disabilities are now commercially available, or available in components that can be assembled for semicustomized use. A crucial need in assistive technology delivery is outcome evaluation: how well the device satisfies the user's functional requirements from the user's perspective.

Development of a database that includes information categorized by impairment, device, and device satisfaction would allow for documentation of benefit, and provide justification for provision and payment. Warren (1) notes: "the costs of providing services are probably more available to us than are any valid measures of the benefits the recipient receives."

Review of the literature clearly identifies the need for documentation of assistive device outcome in terms of continuing use. However, there are few, and only retrospective, reports of such documentation. Brabyn (2) reported a follow-up survey of prototype vocational aids for persons who are blind. Of the 70% responding, 92% reported still using the device. Data concerning the frequency of use, reliability, number of breakdowns, positive/negative features, etc., were also obtained.

Caudrey and Seeger (3), in a follow-up 16 weeks after device delivery, found 86.5% of the various devices were still in use and were being used an average of 3.3 hours per day. All information was reported by the user or user's family. Although this information was useful for short-term follow-up, no plans were made for continued evaluation.

Kohn et al. (4) reported a retrospective study of 196 clients, of whom 138 (70%) responded. Five years after delivery, 79% were satisfied with function and comfort of their aids and 21% felt im-

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provement was needed. Routine follow-up was recommended as part of service delivery to reduce problems and improve satisfaction. McGrath et al. (5), from a telephone survey to 502 families 2 weeks following delivery of a variety of assistive devices, found device usage ranged from 77 to 100%. The period of follow-up was short, and no plans were made for continued follow-up. Willkomm (6) reported on follow-up of devices provided in a rural setting. Of commercially available devices evaluated after 3 months of use, 86% were successful and 14% still needed further modification. Discussing the reasons for non-success and recommendations for further research she notes: "Procedures for conducting follow-up activities need to be more clearly defined as to frequency, types of questions to ask, and how the device or modification can be improved." A national survey on technology abandonment (7) was reported in 1993: 227 adults with physical disabilities responded to a survey about device attributes, use, and reasons for non-use. Of 1,732 different devices, 507 (29.3%) had been abandoned; however, no distinction was made between abandonment expected for a variety of reasons (e.g., growth, outgrew need) versus abandonment due to user dissatisfaction. This abandonment survey did not fulfill the purpose of follow-up by an individual service delivery center and therefore provided no feedback that would allow changes in service delivery by a specific center.

From our review of the literature, it seemed clear that although information was needed about use and function of assistive devices as perceived by persons with disabilities and their families, very few centers had elicited such information, and those who had reported follow-up used a retrospective format for their inquiries.

Our plan, therefore, was to implement a follow-up program that was service delivery center initiated and prospective in nature. The components included a baseline evaluation of the individual with disability, provision of the appropriate assistive technology, and follow-up at select intervals. We hoped to demonstrate: 1) whether the provision of the assistive device was perceived as helpful by the person served, and 2) whether the active follow-up process could be duplicated in other assistive technology service delivery centers. The study's purpose was to document outcome from the user's perception. As quality assurance becomes increasingly important in the assistive technology field, the value of such documentation will become increasingly recognized.

Our hypothesis was that assistive technology users would perceive their comfort and/or function to be higher with their new device when compared to their comfort and/or function with their original device (or no device). For more detail see Kohn and co-workers (8–10).

METHODS

The study design included an evaluation before delivery of the new device, at delivery of the device, and at 7 months postdelivery. A scale of 1–5 (least to best) was used to describe comfort and safety. If the device user was comfortable and functional at the 4 or 5 level at the time of delivery, the 7-month evaluation looked at whether this level was *maintained*. If the rank was 1, 2, or 3, the 7-month evaluation looked for *improvement*. Both situations were counted positive in tabulating results. In addition, device users were asked for their perceptions about "improvement, no change, or decrease" in the various categories. Results indicated both the evaluation responses and the user responses. (Details of the forms are available from the authors.) A pilot study involving 60 persons with disabilities was conducted over a 1-year period, with additional follow-up at 2 years postdelivery at the Rehabilitation Engineering Center (REC), Lucile Salter Packard Children's Hospital at Stanford (LSPCH).

RESULTS

Pilot Study

Table 1 presents the devices provided and demographics of the individuals who were seen. Figure 1 shows the percentage still in use at the 24-month phone call. The success of this pilot study after 1 year (i.e., it was possible to follow and document areas of interest to technology providers) led to the replication program in four other centers.

Replication Project

One hundred and three assistive devices were provided by the four centers. Table 2 provides information about the persons with disabilities who received devices and which technologies they received. Individuals were entered sequentially in the four centers, with twice as many in the intervention group: there were 30 controls and 73 in the intervention group. The intervention consisted of telephone calls at 1, 3, and 6 months, although all individuals were re-evaluated at 7 months.

There were no statistically significant differences between control and intervention groups at the time of delivery across measures of age, device, diagnosis, gender, function, comfort, and safety. There were also no statistically significant differences between

TABLE 1. Devices provided and demographics—pilot project, REC, LSPCH

	Frequency
Device	
Seating system	32
Prosthesis—below knee amputation	13
Orthosis—thoracic lumbar sacral orthosis	10
Communication system	5
Total	60
Demographics	
Sex	
Male	32
Female	28
Average age	23
Diagnosis	
Amputee	15
Cerebral palsy	32
Muscular dystrophy	3
Spinal cord injury	1
Scoliosis	7
Traumatic brain injury	1
Leukemia	1
Total	60

the two groups at 7 months re-evaluation on the above measures plus percentage still using and devices broken and repairs needed. Since the two groups were similar, both at the beginning and at the 7-month evaluations, they were merged for calculation of outcome measures. Tables 3 and 4 show the information at 7 months compared with initial evaluation. Table 5 indicates the percentage improved as perceived by those persons who were continuing to use their assistive devices. Results were satisfactory to good except for the performance of the power chairs. Whereas 57% of all devices had required repairs by the 7-month visit, 86% of the power wheelchairs had required repairs in the same period.

DISCUSSION

Most encouraging to the providers was that 93–95% of the devices were still in use after 7 months. In these four centers, at least, this indicates a high level of performance and perceived satisfaction with assistive technology.

Some of the anecdotal information was valuable in interpreting the quantitative data. For example, many of the individuals with bath benches did not perceive any improvement in function since they still required assistance in bathing. However, if the question had been asked of the caregivers, the responses might have been much more positive. The power chair users, all of whom had the diagnosis of paraplegia or quadriplegia secondary to spinal cord injury, noted substantial problems with breakage and repairs, and yet 93% were still using their original devices. In view of the absolute necessity of such devices for functional mobility in this group of users, the information about need for repairs has resulted in plans for improvement in quality of these devices. The telephone calls at 1, 3, and 6 months did not make a statistically significant difference in perceived outcome of devices compared to the control group who did not receive telephone calls. However, this may have been due to unplanned interactions by the control group (of whom 46% returned for repairs), leading to contact aside from the telephone calls. It may also have been due to the few persons in the control group. Those who did receive the telephone calls felt they were helpful (52 of 70 responding or 74%) and timely (50 of 69 responding or 72.5%). Assistive technology clinicians who participated in the four-center study estimated that 10% of a full-time position would be required to implement a follow-up strategy that included the 1-, 3-, and 6-month phone calls. Comments by the clinicians were uniformly positive, and all indicated they had learned something of value through the center-initiated follow-up. One clinician said a number of device users had problems with their seating but she was not notified until she called. Another said that a follow-up program forces follow-up on all clients so the quiet or neglectful ones get their equipment checked for use, modification, and repair as much as the assertive ones.

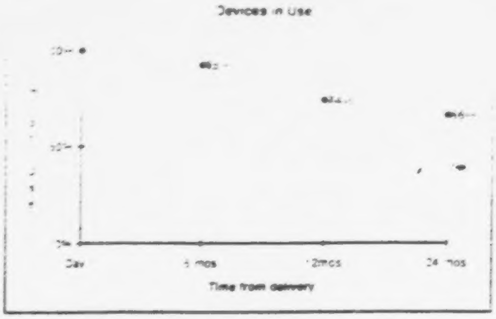

FIG. 1. Pilot study—REC, LSPCH.

Follow-up contact can thus identify those individuals who have neither contacted the center with problems nor returned for repairs or modifications. This group, comprising from 20 to 60% of persons

TABLE 2. Client demographics by device, replication study

	Seating systems	Communication systems	Power chair	Bath bench
Frequency	54	15	14	20
Sex of client				
Male	22	7	12	15
Female	32	8	2	5
Average age at delivery (years)	38.8 (range 17–74)	32.0 (range 13–65)	38.5 (range 16–70)	33.4 (range 17.8–69)
Diagnosis				
Cerebral palsy	28	12		
Spinal cord in jury	4		14	20
Multiple sclerosis	7			
Brain injury	4	2		
Spina bifida	4			
Cerebral accident	2	1		
Rheumatoid arthritis	2			
Muscular dystrophy	1			
Parkinson's disease	1			
Spinal muscular atrophy	1			
Total	54	15	14	20

who receive assistive technology, should be re-evaluated in a timely fashion. Identification can indicate 1) noncomplainers who have problems with their devices; 2) nonusers who have abandoned their devices, to identify deficiencies either with the device or with the delivery system; and 3) successful users whose devices are notable for excellent performance. Feedback to manufacturers and to third party payors about successful devices is important, as well as identification of problems.

Information was obtained from device recipients about comfort, safety, function, whether the device had broken or needed repairs, and, of course, whether it was still in use. The responses indicated that it was possible to document these outcome measures for a wide variety of assistive devices. As a quality assurance tool, a follow-up program monitors service systems, the satisfaction of device users, staff performance, and device operation. This information allows change of existing delivery methods based upon the findings. Follow-up programs should be able to document and justify device provision and payment. The outcome measures identified were function with device, use (hours per day), comfort, safety, and need for repairs. Further studies are needed to relate outcome measures to costs of providing assistive technology. Once a tracking system is in place, it should be possible to document longevity of devices and reasons for discontinuation in use and replacement need.

Individual centers may wish to develop their own "tickler" file for reminders of telephone calls needed; this can be kept manually or by computer. For quality review at specified intervals, all individuals contacted in the prior month, or prior week, can be discussed. Some centers may want to institute an automatic "recall" system for re-evaluation of device users on a quarterly, semiannual, or annual basis. The question of who makes the contact with the device user may depend upon whether information is to be gathered over the telephone or whether the device user is to be routinely scheduled for a recall visit. In our study, some of the clinicians felt it was important for those providing the devices to initiate the follow-up call, since they were more familiar with needs of the users and characteristics of the device; this was particularly true for communication device follow-up. Other clinicians felt that a designated support staff member who had been trained in the procedure could make the telephone contacts and ask for assistance when needed in making a decision on scheduling return visits. Smaller centers with fewer device deliveries may opt for each clinician to follow his or her own device users while larger centers may concentrate follow-up in one administrative unit. It is safe to say, however, that some form of follow-up *and* documentation of outcome will be a matter of increasing importance to providers.

TABLE 3. Characteristics of 103 clients at delivery of the device

Characteristic	Total (n = 103)
Mean age (years)	36.7
Device (%)	
Seating	52.3
Communication	14.6
Power chair	13.6
Bath bench	19.4
Diagnosis (%)	
Cerebral palsy	38.8
Spinal cord injury	36.9
Multiple sclerosis	6.8
Brain injury	5.8
Other	11.7
Gender (males) (%)	54.4
Function (%)	
Improved	61.2
Unchanged	37.9
Decreased	1.0
Use (mean hours used per day)	9.1 (n = 81)
Comfort (%)	
Improved	65.1
Unchanged	34.0
Decreased	1.0
Safety rank (%) (n = 76)	
Low (1–2)	4.0
Middle (3)	10.5
High (4–5)	85.5

CONCLUSIONS

Although this study did not include large numbers of device users, it did include clinicians from five centers. The variety of devices provided and differences in user needs demonstrated that a follow-up system can be developed which is useful to service providers.

TABLE 5. Percent improved or maintained high in key variables, replication study

Characteristic	Percent improved (user report)	Total in group
Comfort		
Total	89.8	98
Seating	94.2	52
Communication	100	15
Power chair	57.1	14
Bath bench	94.1	17
Function		
Total	82.7	98
Seating	92.3	52
Communication	100	15
Power chair	21.4	14
Bath bench	88.2	17

The study was successful in documenting device user feedback using prospective and standardized collection forms. Outcome measures were helpful in determining user satisfaction and device performance. Comparison of clinician evaluation with user response indicated that users' perceptions of device performance were reliable. For the majority of device users, the provision of selected assistive technology was demonstrably positive. Use of data derived from the study provided feedback to the participating service centers and modifications of service delivery or change in devices offered is planned by these centers. Feedback from both device users and service centers was generally positive about the intervention phone calls and the value of the follow-up program. For those individuals *not initiating* return for repairs or modifications of their devices, the phone-call follow-up provided infor-

TABLE 4. Measures of device use at 7 months follow-up

Device type n = 103	Seating n = 54	Communication n = 15	Power chair n = 14	Bath Chair n = 20
Comfort—CE* (median rank)	5	4	4	4
Comfort—UR (% improved)	94	100	57	94
Function—UR (% improved)	92	100	21	88
Safety—CE (median rank)	5	5	4	4.5
Broken—UR (% yes)	18	36	57	11
Repairs—CE (% yes)	65	40	86	21
Seated properly—CE (median rank)	4.5	—	4	—
Hours sit in comfort—UR (median rank)	>9	—	>9	—
Still used—UR (%)	94	93	93	95

* CE = clinician evaluation; UR = user report; median rank 1 = least, 5 = most.

mation that would not have been available otherwise.

Assistive technology providers who wish to implement their own follow-up system will need to have in place the following components: a "tracker" file, kept manually or by computer: a designated person or persons responsible for monitoring the file and initiating follow-up: a plan for action if intervention is required (return visit, replacement, etc.); and a method of documentation that follow-up has been carried out, and that is retrievable for periodic quality review.

Acknowledgments: The authors recognize the contributions of Carol Langhauser, M.A., in the statistical analyses, and Tricia Stromsted for assembling the manuscript. We also express our appreciation for the participation of the personnel in the four centers who collaborated in the replication portion of the project. Most of all, we are grateful for the cooperation and thoughtful comments of the individuals with disabilities who received the assistive technology.

This work is supported by grant #H133E80030 from the National Institute on Disability and Rehabilitation Research (NIDRR), U.S. Department of Education to Los Amigos Research and Education Institute of Rancho Los Amigos Medical Center with Donald McNeal, Ph.D., as Principal Investigator. Opinions expressed in this article are those of the authors and should not be construed to represent the opinions or policies of NIDRR.

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To be completed at 1,3,6 months after delivery

Phone Call Follow-Up Form

Name: ______________________________
Male: ______ Female: _____
DOB: ______________________________
Dx: ______________________________
Study #: ______________________________

Interviewer:	Interviewee:	Date:
1)______________________	1)______________________	1)______________________
3)______________________	3)______________________	3)______________________
6)______________________	6)______________________	6)______________________

Instructions

This form is designed to give you periodic feedback regarding the device provided. The survey is formatted so that only one form will be used for all three follow-up phone calls (at 1, 3, and 6 months post-delivery). The form should be kept in the chart, signed and dated each time it is used.

To receive consistent results, please try to ask these questions to the same person (preferably the client or parent) during each of the three follow-up calls. Also, please let the interviewee know that we are asking these questions to monitor the service we provide to our clients and that we will repeat this process twice.

If at any time the client feels that the device is unsafe, an immediate return appointment should be made.

Revised: 7/10/91
Forms Disk-HD:•Phone Call Form

Turn page over for questionaire

Phone Call Follow-Up Form Page 2

(01) Who is being interviewed?

	1	3	6
Client____________			
Parent____________			
Caregiver__________			
Other:____________			

(02) Is the device still in use? If no, why not:

	Y	N	N/A
1			
3			
6			

1)____

3)____

6)____

(03) Have you been back to the center for adjustments or refittings since the last time the center called you?

	Y	N	N/A
1			
3			
6			

(04) Are you happy with the device?

	Y	N	N/A
1			
3			
6			

(05) Is the appearance of the device satisfactory?

	Y	N	N/A
1			
3			
6			

(06) Is the device comfortable?

	Y	N	N/A
1			
3			
6			

If no, list problems

1)____

3)____

6)____

(07) Does the device do what you want it to do?

	Y	N	N/A
1			
3			
6			

If no, explain

1)____

3)____

6)____

(08) Is the device easy to use?

	Y	N	N/A
1			
3			
6			

(09) Do you feel safe when the device is being used?

	Y	N	N/A
1			
3			
6			

(10) Is the quality of the device...

	1	3	6
Excellent			
Above Average			
Average			
Below Average			
Very Poor			
N/A			

(11) Estimate how many hours per day the device is currently used?

	1	3	6
≈1 hour			
≈4 hours			
≈7 hours			
≈11 hours			
≈15 hours			
N/A			

(12) **Additional Comments:**

1)____

____

3)____

____

6)____

____

Lucile Salter Packard
Children's Hospital at Stanford
Rehabilitation Engineering Center
725 Welch Road
Palo Alto, CA 94304
415-497-8199

Client information Label

CLIENT NAME:______________________ Date:__________

Current Phone Number:______________________

____Prosthetics ____Orthotics ____Seating/Mobility ____Communications ____Other

Referred by :____Self ____Dr. __________ Therapist__________

Rx: _____Yes ____No

Reason for visit:

____Consultation/Evaluation ____Adjustments ____Repairs

____Casting/measurement ____Shoes ____Other__________

____Delivery ____Check Up

Upper Extremity L R Lower Extremity L R

Place of visit: ____Office __________Hospital ____ Other__________

Describe reason for visit:

Clinician findings and recommendations:

Action taken today:

Clinician/assistant __________

Payment: ____Cash ____Check ____Credit Card ____Other:__________

Next appointment date:__________ Appointment card Y N

The articles/services listed above have been received and are acceptable. I understand the use and care instructions given me for the device or service provided. Client Signature__________

Instrument: **Supplier Tools**

Three examples of supplier tools are included in this guide. A Consumer Satisfaction Survey and a form "Monitoring Status of Equipment" were reviewed. Another set of consumer satsifaction and monitoring forms follows these reviews.

Instrument 1: **Consumer Satisfaction Survey**
Author: Burton W. Brennan Inc.
and
Instrument 2: **Monitoring Form of AT Orders**
Author: LaPlante Supply Co.

Reviewer: Adrienne Bergen

Consumer Satisfaction Survey

Satisfaction Survey is sent to consumers and clinicians after a piece of equipment is delivered. The survey is sent with a self addressed stamped envelope for easy return. Surveys are extremely difficult to do. I am have been trying for four years to put together an effective tool to accomplish what he is also trying to do. The difficulties in sending this type of instrument to consumers is as follows: Few are returned. Consumers often have difficulty understanding the vocabulary used in the questions.

In reviewing the instrument, I found the following:

- Instructions say the reader should circle the appropriate response with 1 being the low rating and 10 being high. However, the number range is only 1 to 5 on the paper.
- The vocabulary is difficult to understand. For example, regarding item C: does a consumer understand the words "conform" and "specifications".

Item D, the word "adequate" is too judgmental and subjective in nature.
Item G, Did the evaluation meet your "Professional Standards"-- Why is this question asked of consumers? or perhaps reword it to say, "Did the evaluation meet your expectation? Did the professional working with you meet your expectations, standards, etc.?"

No information was given as to the results this survey form generates.

Monitoring Form of AT Orders

This is an order tracking system. Most suppliers have some type of internal method for tracking an order from when the client is evaluated right through to when the equipment is delivered. At most companies this is in a computer data base. This is a pen and paper sheet in each client's chart. Although this will allow consumers and clinicians an opportunity to get good information when they call the supplier it does not measure performance. It is a way to answer questions when someone calls, and to allow consumers and clinicians and opportunity to see where delays occur.

CONTACT INFORMATION

Burton Brennan
Burton W. Brennan Inc. 85-A Bassett Highway Dover, New Jersey 07801

Larry Salyer
Loyal LaPlante Supply Co. 6702 E. 11th St. Tulsa, OK 74112

BURTON W. BRENMAN, INC.
CUSTOM PRESCRIPTION WHEELCHAIRS
CUSTOM SEATING SYSTEMS
CHILDREN'S EQUIPMENT

85-A BASSETT HIGHWAY
DOVER, NEW JERSEY 07801

TEL (201) 328-2876
FAX (201) 328-3235

11-1-97

Lucy Vitaliti
RESNA

Concerning our initial evaluation form and the review of the form received on 10-29-97.

The reviewer is correct in pointing out the error in the rating of 1 to 10 on the form while we only use 1 to 5.
It is a typographical error for we had originally thought to use a 1 to 10 rating but based on information provided through articles in various journals,we reduced it to a 1 to 5 scale.

Concerning the vocabulary:
The form is sent to both therapist and client,and the hope was, since both receive the same form,we could compare "results" or answers. However,too few forms have been returned as yet to make such an evaluation. Only time will tell.

I do think that the wording of "conform" ,"specifications", "function" is understandable to most,but not all clients.

The evaluator asks if the consumer has standards for function. The consumer ought to have,and this question is of the utmost importance. We,all of us,should ask these questions.

1-What is your,clients,perception of what the equipment will do.
2-How do you intend to use it. Are you capable of using it.
3-Where do you intend it to be used.
4-How long will you need the equipment.

In a nut shell, how will it "function" and did in in reality meet your "functional" standards. To me this question and its answer is the "heart" of the evaluation. Did we meet the needs and aspirations of the user.

As far as others using this particular form, well,frankly, we would like to improve it also. It has not been in use long enough, nor has the response been high enough to make an evaluation, both of its effectiveness,and what can be extrapolate from it to improve our services. We will just keep trying.

Thanks

CRTS, ATS

CERTIFIED SEATING & MOBILITY SPECIALIST - UT - REP

CONSUMER SATISFACTION SURVEY

Consumer Name ______________________________ Date ______________
Caregiver/Professional Name ____________________ Phone # ____________
Consumer Address ____
____ W/T# ______________

In completing this survey please circle the appropriate response. 1 indicates a low rating (unsatisfactory) and 10 is a high rating (very satisfactory).

A When calling our office was the staff helpful and courteous?

1 2 3 4 5

B Was the delivery of your equipment made when promised?

1 2 3 4 5

C Did the equipment conform to the specifications?

1 2 3 4 5

D Were the instructions you were given on the use and care of the equipment adequate?

1 2 3 4 5

E Is the equipment providing the service and/or function you requested?

1 2 3 4 5

F If a repair, was the problem fixed correctly?

1 2 3 4 5

G Did the evaluation procedure meet your professional standards?

1 2 3 4 5

H Did the equipment provided meet your standards for:

1	Quality	1	2	3	4	5
2	Function	1	2	3	4	5
3	Appearance	1	2	3	4	5

I Is there other equipment (wheelchair, walker, rehab equipment) you would like information on?

____
____

J Is there any other service we can provide at this time?

____
____

K Do you have any other comments or suggestions to help us improve?

____
____
____
____

Additional items included for your information but not reviewed:

Equipment and Consumer Follow Up

Rehabilitation Technology Assessment

Instrument: **Consumer Satisfaction and Equipment Forms**

Author: Adrienne Bergen

The following forms are additional examples of what another supplier uses for monitoring status of equipment and consumer satisfaction. Contact Adrienne Bergen for more information on these items.

LETTERHEAD OF AGENCY USING INSTRUMENT

To whom it may concern Date:____________

Attached please find a detailed assessment, medical justification and equipment recommendation for

____

who was referred to us for:____

____.

He/she presents as a ____

____.

He/she presently uses ____

____

The problem(s) with this equipment is(are): ______________________________

____

Our assessment revealed:____

____

____

____

Our recommendation is that the following equipment be provided:______________

____

____

BEST COPY AVAILABLE

We hope to achieve the following goals with this equipment:

1. ____

2. ____

3. ____

4. ____

All details can be found on the following pages. If you have any additional questions, please feel free to call me at ____________________.

Sincerely,

395

DYNAMIC MEDICAL EQUIPMENT, LTD.

Joint Commission
on Accreditation of Healthcare Organizations

IN ORDER TO SERVE PEOPLE BETTER, WE ARE DOING A SURVEY. WE ARE TRYING TO FIND OUT WHAT EQUIPMENT WORKS FOR PEOPLE, AND HOW THEY LEARN WHAT EQUIPMENT WORKS BEST FOR THEM. COULD YOU HELP US? WE NEED YOU TO FILL OUT THIS FORM AND RETURN IT TO US. IF YOU ARE WITH ONE OF OUR EMPLOYEES, COULD YOU GIVE IT BACK TO HIM/HER RIGHT NOW. IF YOU WERE NOT AT THE ASSESSMENT COULD YOU FILL THIS OUT AND RETURN IT IN THE ATTACHED ENVELOPE.

AFTER YOU GET YOUR EQUIPMENT YOU WILL GET ANOTHER FORM TO FILL OUT TO SEE IF THE EQUIPMENT IS WHAT YOU EXPECTED IT TO BE. 6 MONTHS AFTER THAT WE WILL SEND YOU ANOTHER FORM TO SEE HOW EVERYTHING IS GOING.

THIS INFORMATION IS VERY IMPORTANT TO EVERYONE WHO RECOMMENDS EQUIPMENT, AND TO THE PEOPLE WHO USE IT. PLEASE HELP US......

CLIENT NAME: ______________________________ DATE ______________

EQUIPMENT BEING RECOMMENDED ______________________________

WHO ARE YOU? (please check the correct answer)

person using the equipment _____ user's parent ________

user's spouse, or significant other _____ caregiver ______

WHERE DID THE EVALUATION HAPPEN? your home school hospital clinic

WHERE YOU THERE? Yes No

WERE YOU OFFERED DIFFERENT CHOICES Yes No

DID YOU SEE PICTURES OF THE EQUIPMENT BEFORE YOU CHOSE? Y N

DID YOU TRY THE EQUIPMENT BEFORE YOU CHOSE? Y N

DO YOU KNOW HOW MUCH YOUR EQUIPMENT WILL COST? Y N

HOW LONG DO YOU THINK IT WILL TAKE TO GET YOUR EQUIPMENT? ____MONTHS

WHAT GOALS DO YOU HAVE, WHAT DO YOU WANT THE EQUIPMENT TO DO FOR YOU, HOW DO YOU HOPE IT WILL HELP?

______________ ______________ ______________

______________ ______________ ______________

HOW DO YOU RATE THE ASSESSMENT PROCESS?

VERY SATISFIED SATISFIED NOT SATISFIED

51 Rushmore Street, Westbury, New York 11590
516/333-1472 • 718/470-1880 • 908/442-0505 • Fax: (516) 333-1817

DYNAMIC MEDICAL EQUIPMENT, LTD.

Joint Commission
[illegible]

YOU JUST RECEIVED A ______________________ FROM OUR COMPANY FOR ______________________. WHEN YOU CHOSE THIS EQUIPMENT YOU FILLED OUT A SURVEY FORM FOR US. NOW THAT YOU HAVE THE EQUIPMENT, WE NEED YOU TO TELL US HOW YOU LIKE IT. COULD YOU PLEASE FILL OUT THIS FORM AND GIVE IT TO YOUR RTS RIGHT NOW, OR MAIL IT BACK TO US IN THE ENCLOSED ENVELOPE. THANK YOU AGAIN FOR HELPING. WE HOPE THIS HELPS LOTS OF PEOPLE GET THE EQUIPMENT THEY WANT AND NEED.

WHO ARE YOU? (please check the correct answer)

person using the equipment _____ user's parent ________

user's spouse,or significant other _____ caregiver _______

WHERE DID THE DELIVERY HAPPEN? your home school hospital clinic

	Yes	No
WHERE YOU THERE?		
DID SOMEONE SHOW YOU EXACTLY HOW THE EQUIPMENT WORKED?	Y	N
DID THEY TELL YOU WHAT TO DO IF YOU HAVE A PROBLEM?	Y	N
DID IT TAKE LONGER THAN YOU THOUGHT TO GET THE EQUIPMENT?	Y	N

HERE IS A LIST OF THE THINGS YOU TOLD US YOU WANTED THE EQUIPMENT TO HELP OUT WITH. DO YOU THINK IT WILL HELP? CIRCLE THE THINGS YOU THINK IT WILL HELP WITH.

__________ __________ __________ __________

__________ __________ __________ __________

COMMENTS:

51 Rushmore Street, Westbury, New York 11590
516/333-1472 • 718/470-1880 • 908/442-0505 • Fax: (516) 333-1817

DYNAMIC MEDICAL EQUIPMENT, LTD.

Joint Commission
on Accreditation of Healthcare Organizations

THIS IS OUR LAST CHANCE TO SEE HOW YOU LIKE THE NEW ____________________

THAT ______________________________ GOT LAST ______________________________.

CAN YOU TAKE A MINUTE TO FILL OUT THIS FORM, AND RETURN IT TO US IN THE STAMPED ENVELOPE WE HAVE ENCLOSED. WE REALLY APPRECIATE ALL YOUR HELP.

WHO ARE YOU? (please check the correct answer)

person using the equipment _____ user's parent ________

user's spouse,or significant other _____ caregiver _______

IS THE EQUIPMENT BEING USED?	Y	N
IS IT WORKING WELL?	Y	N
IS IT WORTH THE PRICE THAT WAS PAID?	Y	N

HERE IS A LIST OF THE THINGS YOU TOLD US YOU WANTED THE EQUIPMENT TO HELP OUT WITH. DID IT HELP? CIRCLE ALL THE THINGS IT HELPED WITH. PLEASE ADD ANY OTHER THINGS IT HELPED WITH THAT YOU DID NOT EXPECT.

______________ ____________________ ______________ ________________

____________ ______________ ________________ ______________

____________ ______________ ________________ ______________

NOW TELL US HOW YOU THINK THE WHOLE PROCESS WENT FROM WHEN YOU FIRST CHOSE THE EQUIPMENT UNTIL NOW? ARE YOU

NOT SATISFIED SATISFIED VERY SATISFIED

COMMENTS:

51 Rushmore Street, Westbury, New York 11590
516/333-1472 • 718/470-1880 • 908/442-0505 • Fax (516) 333-1817

DYNAMIC MEDICAL EQUIPMENT, LTD.

"Accreditation with Commendation by"
Joint Commission
on Accreditation of Healthcare Organizations

December 1995

In an effort to improve our service to consumers and clinicians we would like to hear about your experiences with Dynamic Medical Equipment, Ltd. during this past year. Please take a few moments in the next day or two to complete this questionnaire. When you are done, please return it in the envelope enclosed. or fax it to our offices at 516-333-1817.

We are asking you to identify yourself, and your facility, so that we can track any patterns that may reflect geographical problems, or problems with personnel or procedures endemic to the type of service delivery model your facility represents. If you do not feel comfortable identifying yourself please complete the questionnaire anyway and leave those areas blank.

Thank you in advance for your time and effort.

FACILITY ______________________________ DATE ________

PERSON COMPETING THIS FORM ______________________________

TOPIC AREA ______________________________ **1995 RATING**
(1= strongly disagree......5= strongly agree)

RTS (please tell us about the salesperson/RTS who works with you)

PRESENTS IN A PROFESSIONAL MANNER	1	2	3	4	5
KNOWLEDGEABLE	1	2	3	4	5
ABLE TO DO SIMPLE ON SITE REPAIRS/ADJ	1	2	3	4	5
WORKS WELL WITH CLIENTS	1	2	3	4	5
WORKS WELL WITH OTHER FAMILY MEMBERS	1	2	3	4	5
OFFERS CHOICES	1	2	3	4	5
HAS LITERATURE AVAILABLE IN CLINIC	1	2	3	4	5
ARRANGES FOR TRIAL EQUIPMENT	1	2	3	4	5
COOPERATIVE	1	2	3	4	5
PROVIDES UP TO DATE PRODUCT INFO	1	2	3	4	5
KEEPS GOOD RECORDS	1	2	3	4	5
PROCESSES PAPERWORK IN A TIMELY FASHION	1	2	3	4	5
PROVIDES CLINIC WITH STATUS UPDATES	1	2	3	4	5
AVAILABLE WHEN NEEDED FOR ASSESSMENTS	1	2	3	4	5
ADEQUATE COVERAGE OR OTHER ARRANGEMENT IS PROVIDED IF RTS IS ABSENT	1	2	3	4	5
RETURNS PHONE CALLS IN A TIMELY FASHION	1	2	3	4	5

51 Rushmore Street, Westbury, New York 11590
516/333-1472 • 718/470-1880 • 908/442-0505 • Fax: (516) 333-1817

CUSTOMER SERVICE

RTS ASSISTANT HELPFUL	1	2	3	4	5
RTS ASSISTANT PLEASANT TO DEAL WITH	1	2	3	4	5
RTSA PROVIDES ACCURATE INFORMATION	1	2	3	4	5
OTHER CUSTOMER SERVICE REPS HELPFUL	1	2	3	4	5
OTHER CSRS PLEASANT TO DEAL WITH	1	2	3	4	5
OTHER CSRS PROVIDE ACCURATE INFORMATION	1	2	3	4	5

OFFICE PROCEDURES

PAPERWORK SUBMITTED TO OUR OFFICE MOVES THROUGH PROPER CHANNELS IN A TIMELY FASHION	1	2	3	4	5
FOLLOW-UP AFTER SUBMISSION OR RESUBMISSION FOR FUNDING IS ADEQUATE	1	2	3	4	5
COMPUTER READOUT PROVIDES SUFFICIENT INFORMATION TO KEEP CLINIC UP TO DATE	1	2	3	4	5

EQUIPMENT ISSUES

EQUIPMENT ORDERED IN A TIMELY FASHION FOLLOWING APPROVAL	1	2	3	4	5
EQUIPMENT PROVIDED IN A TIMELY FASHION	1	2	3	4	5
EQUIPMENT PROVIDED MEETS SPECIFICATIONS	1	2	3	4	5
ERRORS ARE CORRECTED IN A TIMELY FASHION	1	2	3	4	5
LOANER EQUIPMENT IS PROVIDED AS NEEDED	1	2	3	4	5

SERVICE TECHNICIANS

ST'S PRESENT THEMSELVES IN PROFESSIONAL MANNER	1	2	3	4	5
QUALITY OF THEIR WORK IS EXCELLENT	1	2	3	4	5
SERVICE IS DONE IN A TIMELY MANNER	1	2	3	4	5
TECH ARRIVES WHEN SCHEDULED	1	2	3	4	5
TECH CALLS IF DELAYED OR UNABLE TO COME	1	2	3	4	5

DELIVERIES

ITEMS COMPLETE WHEN DELIVERED TO CLINIC	1	2	3	4	5
ITEMS DELIVERED WHEN PROMISED	1	2	3	4	5
CLINIC KEPT INFORMED OF ITEMS DEL TO HOME	1	2	3	4	5

COMMENTS:

Please use this space to make any general or specific comments that would help us to better serve you and the consumers you work with

WE WOULD LIKE TO SHARE THE RESULTS OF THIS SURVEY IN OUR NEWSLETTER, AND WITH SOME OF THE CASE MANAGERS WE WORK WITH. PLEASE INDICATE IF WE CAN FEEL FREE TO QUOTE ANY WRITTEN COMMENTS YOU MAKE ABOVE

YOU CAN QUOTE ME ____________________
PLEASE DO NOT QUOTE ME ________________

____
SIGNATURE

IMPROVED ORGANIZATIONAL PERFORMANCE
REHABILITATION EQUIPMENT MANAGEMENT
SATISFACTION QUESTIONNAIRE

DATE: ____________

CLIENT NAME: ______________________________ CSR CALLING: ____________

SERVICE PROVIDED:(REP/SER OR DEL) ______________________________

ASK ALL OF THESE QUESTIONS FOR REPAIR & SERVICE CALLS

1. Did we come on the day originally scheduled? Y N
2. The driver/tech left me with a delivery receipt? Y N
3. He explained about my rights and responsibilities? Y N
4. He told me to call the office if I had any problems with the equipment? Y N
5. I know him or he showed me his ID? Y N
6. Overall my experience with Dynamic Medical left me NS S VS
   not satisfied satisfied very satisfied
7. Is there anything we can do to make your more satisfied with our service?

____

____

ASK ALL OF THESE QUESTIONS FOR EQUIPMENT DELIVERIES

1. Did we come on the day originally scheduled? Y N
2. This is the first time I have had this type of equipment? Y N (if no, go to 3.)
   a. Our driver/tech showed me what the equipment was for and how to use it? Y N
   b. He had me sign a form saying that I understood how to use the equipment? Y N
3. He left me with a delivery receipt? Y N
4. He explained about my rights and responsibilities? Y N
5. He told me to call the office if I had any problems with the equipment? Y N
6. I know him or he showed me his ID? Y N
7. Overall my experience with Dynamic Medical left me NS S VS
8. Is there anything we can do to make you more satisfied with our service?

____

____

1/97

BEST COPY AVAILABLE

401

Instrument: **The RETT Assessment Tool**

Author: **Florida Division of Vocational Rehabilitation**

When the 1992 Amendments to the 1973 Rehabilitation Act were passed the leaders in Florida's Division of Vocational Rehabilitation interpreted the portion dealing with rehabilitation technology as a renewal of the strong commitment previously established by the 1986 Amendments. They deemed it appropriate to develop a means by which each and every VR applicant would be screened for their existing or possible use of assistive or rehabilitation technology. The Director of Florida's Vocational Rehabilitation, Tamara Allen, assembled a workgroup consisting of a counselor, supervisor, district manager, rehabilitation engineer, and Tech Act representative to be the TechnoTeam. Their charge was to produce an instrument that could assess and record the basic assistive technology needs of all applicants who would pass through the doors of a VR office. A second purpose for the instrument was to act as a training tool for Vocational Rehabilitation Counselors and to develop their involvement in the assistive or rehabilitation technology assessment/screening, from the beginning of the Vocational Rehabilitation Process.

The TechnoTeam assembled every two weeks for six months to research and review the existing and proposed options. Once the instrument began to take form it was circulated among colleagues of the original TechnoTeam for reaction and feedback. When the TechnoTeam was ready to seek further utilization and feedback the instrument was field tested in two of the VR districts of Florida. These field-tests were resulted in additional refinements which are included in the current version.

The intent of the RETT Assessment Tool was to:

- Actively involve the prospective VR client in the assessment process.
- Have a formal record of the prospective VR client's involvement at the time of application
- Provide the VR counselor with follow up questions to help determine the prospective VT client's need for an assistive technology assessment
- To focus a portion of a Counseling and Guidance session on the prospective VR client's needs and possible use of assistive technology.
- To document the Division's commitment to client involvement in the rehabilitation process and to the increasing importance that assistive technology plays in the successful rehabilitation of many of VR's clients.

The two page RETT assessment tool follows the addendum to the Application for VR Services.

For more information, contact:

Terry Ward, Ph.D., ATP, Executive Director
Florida Alliance for Assistive Services and Technology (FAAST)
1020 East Lafayette, Suite 110
Tallahassee, FL 32301-4546
ph 850 487 3278

Please answer the following questions. Your answers will assist the counselor in providing services you may require to successfully complete your assessment.

T Do you need assistance to get to and from places such as work, school, or the grocery store? YES ☐ NO ☐

A Do you use a cane, walker or wheelchair. YES ☐ NO ☐

L Has learning new ideas ever been difficult for you? YES ☐ NO ☐

HSV Have you ever had any difficulty hearing, speaking or seeing? YES ☐ NO ☐

W Do you need assistance to write? YES ☐ NO ☐

J Do you use any tools other than the tools your employer provides to your work? YES ☐ NO ☐

PC Do you need help from anyone in your daily living skills such as dressing, preparing meals or bathing? YES ☐ NO ☐

Counselor: If the answer to any of these questions is **YES** then proceed to the similarly lettered follow up section.

This is an addendum to the Application for VR services.

Rehabilitation Technology Assessment

T	Transportation	YES	NO	N/A
	1. Do you own a vehicle?	____	____	____
	2. If you use a mobility device can you transfer to a car seat?	____	____	____
	3. Do you have a drivers license?	____	____	____
	4. Have you completed a driver's education course?	____	____	____
	5. Can you drive a vehicle from the existing seat?	____	____	____
	6. Can you ride a city bus?	____	____	____

Comments: ____

A	Ambulation			
	1. Can you walk by yourself?	____	____	____
	2. Can you walk up a hill or flight of stairs by yourself?	____	____	____
	3. Can you stand up by yourself?	____	____	____
	4. Can you stand for 30 minutes?	____	____	____
	5. Can you lift a telephone book?	____	____	____
	6. Can you lift a bag of potatoes?	____	____	____
	7. Are you able to reach above your head?	____	____	____

Comments: ____

L	Learning			
	1. Do you learn by watching?	____	____	____
	2. Do you learn by listening?	____	____	____
	3. Do you learn by doing?	____	____	____
	4. Are you able to write down your thoughts?	____	____	____
	5. Can you remember things well?	____	____	____
	6. Can you read printed or hand written messages or notes?	____	____	____
	7. Can you follow directions if someone talks to you?	____	____	____
	8. If a boss/teacher gives written directions on paper can you follow them?	____	____	____
	9. Can you write with a pen or pencil?	____	____	____
	10. Can you spell most words?	____	____	____
	11. Do you keep your own check book?	____	____	____

Comments: ____

		YES	NO	N/A
HSV	**Hearing/Speech and Vision**			
	1. Can you hear sounds and voices most of the time?			
	2. Do you use the telephone regularly?			
	3. Do you hear clearly when you use the telephone?			
	4. Do you speak to communicate?			
	5. Do people understand you when you speak to them?			
	6. Do you read the paper, books or your mail regularly?			
	Comments:			
W	**Writing**			
	1. Do you need any special help to hold a pen or pencil?			
	2. Do you write notes, messages, reports regularly?			
	Comments:			
J	**Job Site Modifications**			
	1. Can you sit for longer than 30 minutes without pain?			
	2. Can you use a computer without help?			
	3. Can you hold the phone and dial by yourself?			
	4. Is the chair that you sit in comfortable for you?			
	5. Do your feet touch the floor when you sit at your work?			
	6. Can you type or work for 30 minutes without pain in your hands, arms, shoulders, neck or back?			
	7. Can you get in and out of the rest room and use the necessary facilities at your school or work?			
	Comments:			
PC	**Personal Care**			
	1. Can you get up and dressed without help?			
	2. Do you shop and prepare your own meals?			
	3. Can you do your own laundry without help?			
	4. Can you bathe or shower without assistance?			
	5. In an emergency can you get out of you home by yourself?			
	6. In an emergency can you dial 911 and give directions to rescue persons to get to your house and help you?			
	7. Can you get in and out of your home by yourself?			
	Comments:			

If the answer to any of these questions is **NO** then a rehabilitation engineering and assistive technology assessment may be appropriate. Certainly if the answer to any of these questions is **N/A** then a call to the Rehabilitation Engineering Technology Team for clarification is appropriate.